

PULP & PAPER

SEPTEMBER 1949
Vol. 23 No. 10
Member Audit Bureau of Circulations
Contents copyrighted, 1949



The Production and Management Journal Covering
North America's Wood Pulp, Paper, Paperboard
and Cellulose Industries

by MILLER FREEMAN PUBLICATIONS, INC.

MILLER FREEMAN.....President
LAWRENCE K. SMITH.....Manager
ALBERT WILSON.....Editor
LUCILE AYERS.....Assistant Editor
MILLER FREEMAN, JR.....Circulation Manager

CHARLES L. SHAW.....Canadian Editorial Director
W. E. CROSBY.....Forestry Editor
NARD JONES.....Associate Editor
WILLIAM J. KREBS.....Associate Editor
ROBERT E. WALTERS.....Associate Editor

PRINCIPAL OFFICES—370 Lexington Ave., New York 17, N. Y., Murray Hill 3-9295 (M. F. Bosworth, Business Representative: Virginia Meenagh, Readers and Adv. Service); 305 Baronne St., New Orleans, 12, La., Phone—Raymond 4760; 5410 Berneau Ave., Chicago 41, Ill. (Attn: R. E. Walters); 675 W. Hastings St., Vancouver, B. C., Phone—Marine 1520. Publishing Office—71 Columbia St., Seattle 4, Wash. Phone—MAin 1626.

OTHER OFFICES—Louis Blackerby, 534 S. W. 3rd Av., Portland 4, Ore.; Tel. Be. 6348—Stuart Leete, 121 2nd St., San Francisco 5, Calif.; Tel. Ga. 1-5887—Arthur Ponsford, 124 W. 4th St., Los Angeles 13, Calif., Tel. MU. 8194.

SUBSCRIPTION inc. North American Review Number—\$3 for 1 yr. and \$5 for 2 yrs. in U. S., Canada, Mexico and other member nations of Pan-American Union (\$4 for 1 yr. and \$7 for 2 yrs. in other countries).

"The Cellulose Age"

EDITORIALS

Sweden Now Sings a Different Tune

E. Von Heland, Swedish timber owner and member of parliament, started considerable discussion in eastern Canada recently when he made the statement that there should be a world-wide price for woodpulp and that Sweden was concerned over the loss of pulp sales because of lower cost production on this continent.

Mr. Von Heland expressed his viewpoint on pulp prices during a conference in Guelph, Ont., of the Federation of Agricultural Producers to which he was a delegate. Presumably he was stating his own opinion rather than his government's official attitude.

One of his comments was that pulp manufacturers in North America were able to charge less for their product because they were not so concerned with reforestation.

Over here, we are pleased to say, the price of most commodities is still determined by the law of supply and demand. When Mr. Von Heland says the price is too low it would seem he does not like a free market.

But for him to say that prices are due to lack of advanced forestry practices is certainly a statement that is not supported by the facts.

It is the Pacific Coast mills which recently had undersold Swedish pulp and the Pacific Coast market pulp mills produce pulp for almost every paper mill in America. If Mr. Von Heland had traveled farther west he would have seen these mills using sawmill and logging "leftover" wood for the manufacture of pulp. This is intensive wood utilization and even if it may not be as intensive as in Sweden, it is an important trend. And there are many other reasons why Sweden's production costs are higher, and it is hardly fitting and proper for Sweden's leadership to try to throw the blame on forest practices half way around the world, when many of its troubles could be laid to the door of the socialist regime at home.

There is an increasing tendency to use small logs and species previously neglected in the Far West. Five new mills exist because of it, and another contemplated for location at Duncan Bay on Vancouver Island will draw upon slabs or salvage logs as their main source of raw material.

In pulp and paper circles there is increasing discussion of the possibility of Swedish devaluation of the krona. Such devaluation has been rumored for months; the country has not been free from currency troubles and attendant import restrictions since 1947.

The Swedish currency position, undoubtedly, has been impaired by the slump in the woodpulp market in the United States. Loss of the pulp markets has prompted Swedish pulp and paper manufacturers to put pressure on the government to devalue the krona and thus put the country back into competition. Employment and continued operation in both Canadian and U. S. mills face a serious threat if the temporary and destructive remedy of devaluation is resorted to.

Some pulp and paper producers on this continent, not necessarily with particularly long memories, see irony in Mr. Von Heland's suggestion inasmuch as a few years ago the competition of lower-priced Swedish pulp and paper was an influential factor in establishing the price levels on this continent.

A Way to Cool Off Those Forests

Inasmuch as rainfall has a great deal to do with forest growth, the followers of what might be called "the doom theory" of forestry should take a sharp look at what has been going on around Schenectady, N. Y. There the Army and Navy, in collaboration with General Electric, have been doing pretty well with the creation of artificial rain by seeding clouds with dry ice. Just how well, they are not saying—but well enough to keep on with the experiments.

So, not far off, a plane with dry ice and suitable gear for dissemination, may be standard equipment in many woodlands operations. Good for reforestation work, and a boon against fire, too.

A Fine Record at Strathmore

Strathmore Paper Co., with mills at West Springfield and Woronoco, Mass., where it makes fine papers, bond and specialties on four Fourdriniers and two special machines, now has passed the 200-mark in number of employees who have been with the firm over 25 years.

That speaks more than words for Strathmore. There are now 201 in its organization wearing 25 year pins and that represents 32% of its payroll. It's a fine record and, it might be said, it exemplifies a trend that is not at all uncommon in an industry which is one of the most stable, in any stage of the business cycles. And as for seasonal variation, paper is the most stable of 21 major industries.

In This Issue—

Calendar of Meetings	42	SIDNEY ROOFING & PAPER CO. EXPANSION.....	86
Machinetender Munchausen	42	Facts About Paper by John L. Parsons	114
G. W. Mead's Comments	43	PULPWOOD SECTION:	
Southern News	44	Pulpwood Calendar.....	110
PT. TOWNSEND KRAFT MILL	46	Forest "Pilot Plant".....	108
Sutherland's New No. 4..	64	Maine Logging Show.....	110
Florida Oak Experiments	65	New Log Tow.....	112
TAPPI FALL PROGRAM—PORTLAND MEETING—1949:		PERSONAL NEWS:	
Complete Program	69	Middle West	96
Guide to Western Mills	71	Northeast	98
History of Coast Section	80	Southern	102
		Canadian	101
		Pacific Coast.....	104-130

MACHINE TENDER Munchausen Stories

In this corner each month, PULP & PAPER will run the "tallest tales" it can gather from pulp and paper industry men. As everyone knows, there just aren't any better story-tellers than pulp and paper makers. This first one is a contribution from Stanley A. Wilkes (right), mill manager, Compania Industrial de Atenquique, Atenquique, Jalisco state, Mexico, a native of Buffalo, who worked in Wisconsin and Vermont, then for 15 years in Southern Kraft mills in the South, then as assistant superintendent at St. Helens, Ore., and later at Jacksonville, Fla., before he crossed the border to help run Mexico's first big market kraft mill. He has four brothers in U. S. mills, Felix, superintendent at Manistee; Walter, superintendent at St. Mary's, Fla.; Edward at Mosinee, Wis.; Jack at Grand Rapids, Mich., and Robert at Jacksonville, Fla. PULP & PAPER has sent Mr. Wilkes \$5 for this story.



This is a story indicating how machine drives have improved.

A tramp machine tender stopped at an old mill looking for a job. He found an old woman running a machine and another one back-tending, while a bunch of kids

were running the winder and doing the odd jobs around the finishing room.

He approached the old woman running machine and asked her who was the boss; she replied that the old man was doing the spring plowing out in the field. So the old tramp went to see the boss and got the job of running this machine. After checking over the whole layout he discovered that the 50 lb. paper order was about complete and he would have to change on to 40 lb., so after he prepared the stock he went to speed the machine up for weight.

He looked all over the mill to see what was driving the machine. Well, sir, the search was fruitless. So in desperation he ran out to the field to report to the boss. After a few cuss words were exchanged the farmer finally took him to a little shed in back of the mill where two mules were going round and round in a circle and a little darky was prodding the mules every time they lagged.

The farmer hollered to the boy "Rastus" speed her up about 30 feet, this gentleman wants to change on lighter weight.

So Rastus gave the mules an extra hard prod and away went the machine for lighter weight.

COMING INDUSTRY MEETINGS

National

National Tech. Ass'n. Fall Meeting—
Multnomah Hotel, Portland, Ore....
Sept. 12-16

Wallboard Conference (Auspices N.
E. Wood Utilization Council &
Harvard U.)—Cambridge, Mass....
Sept. 16

Packaging Machinery Mfgs. Institute
(17th Annual)—Edgewater
Beach Hotel, Chicago.....
Oct. 31-Nov. 2

Packaging Institute (11th Annual
Meet)—Commodore Hotel, N.Y.C.
Oct. 24-26

Engineers' Conference, Statler Hotel,
BostonOct. 31-Nov. 3

Allied Industries' Luncheon Club—
Second Monday of month, 12 noon,
Commodore Hotel, New York.

Regional

N. Y. Canadian Div. Supt's. Ass'n.—
Champlain Hotel, Bluff Point,
Plattsburgh, N. Y.Sept. 8-10

Empire State Tech. Section—
Fraunces Tavern, N.Y.C.....Sept. 13

Miami Valley Supt's. Assn.—Elks
Country Club, Hamilton, O.....
Sept. 16

Northeastern Div. Supt's. Assn.—
Poland Spring, Me.....Sept. 22-24

Del. Valley Tech. Section—
Spring Grove, Pa.....Sept. 30

Pa.-N. J.-Del. Div. — St. Patrick's
Inn, Mt. Pocono, Pa.....
Sept. 30-Oct. 1

Conn. Valley Div. Supt's. Assn.—Red
Lion Inn, Stockbridge, Mass.....
Oct. 1

Industrial Packaging & Materials
Handling Exposition—Convention
Hall, Detroit, Mich.....Oct. 4-6

So. Eastern Div. Supt's. Ass'n.—Ho-
tel Roanoke, Roanoke, Va.....
Oct. 14-15

So. Div. Supt's. Assn.—Frances Ho-
tel, Monroe, La.....Oct. 24-26

Pacific Chemical Exposition—Civic
Auditorium, San Francisco.....
Nov. 1-5

Paper Industry Salesmen—
Midston House, New York City—
Every Monday, 12 noon to 2 p.m.

Wisconsin Mills Spend \$1,000,000 On Stream Sulfite Problem

Wisconsin's 16 sulfite pulp mills have spent over \$1,000,000 in the past ten years in cooperative efforts to solve their stream problems, not counting expenditures within their organization, J. M. Holderby, of the mills' research league, told Menasha, Wis., Kiwanians recently.

He said despite this outlay, an economically feasible solution has not yet been found. Taking active ingredients out of sulfite liquor is as difficult as taking sugar out of coffee after it is stirred. He described the league's present pilot plant testing a Swedish type of evaporator at the Interlake mill in Appleton, Wis., and the commercial yeast plant in operation at Rhinelander, Wis., but still on trial financially.

Mr. Holderby said another \$500,000 is being spent annually by paper mills to clear up "white water."

Production Goes Up!

In the last two weeks of July, U. S. paper mills were running at a higher per cent of capacity than at any time since April. Operations moved up to 83.2 in the third week and 84.7 in the fourth week.

The paperboard mills pushed up to 80% for the fourth week, better than any full month's average since February.

Production Below Consumption

Orders and production of paper in the U. S. have been below consumption since March, says the American Paper and Pulp Association, as it predicted an upward push in August from July.

U. S. production of paper and board for the first half of this year was 9,700,000 tons in comparison to last year's production for the same months of 11,138,000 tons.

Sir Herbert Gepp Tells Of Interesting New Equipment

Sir Herbert Gepp, director of Australian Paper Manufacturers, Ltd., Melbourne, Australia, has been visiting machinery manufacturers and mills in the U. S. and Canada for past five months, he told PULP & PAPER he is quite interested in the Curlator developed at Price Bros. in Canada (April issue of PULP & PAPER) and in the use of screw presses in place of vacuum filters for extracting liquor from pulp in the kraft process. He observed the latter at Chesapeake Corp. of Virginia, West Point, Va. Sir Herbert also recently made a world tour and has probably visited more mills in more countries than any other two pulp and paper men alive.

Pulp manufacturing capacity of Sir Herbert's plant at Maryvale, Victoria, is being increased from 150 tons per day to 250 tons. With completion of the organization's present over-all project, in 1952, production will be increased by 70,000 tons per year.

While at Crown Zellerbach Corp. operations, Camas, Wash., in early August, Sir Herbert gave a technical talk to supervisory staff.

Port Angeles Mill Resumes Operations

The Port Angeles mill of Rayonier, Inc., started up Aug. 8 after a shut-down of several weeks, and in New York **PULP & PAPER** was told by Edward Bartsch, president, that "there is a back log of orders to keep the mill operating for some time."

At time of going to press, no date has been set for the start-up of the Shelton operations where, Mr. Bartsch said, improvements are being made both in equipment and processes.

The Rayonier head expressed himself as optimistic about business generally. "In the past few weeks business has emerged from the deep pessimism observable in some quarters in mid-summer," he said.

Don Fraser Represents Soundview Pulp in East

Donald Fraser, formerly with the Fraser Companies, Ltd., and Restigouche Co., Ltd., has joined Soundview Pulp Co., of Everett, Wash., as its eastern representative with offices in the Chanin Bldg., 122 E. 42nd, New York, according to an announcement by R. M. Buckley, vice president in charge of sales. Mr. Fraser will be in charge of eastern sales of Soundview's bleached sulfite pulp.

Southern Mills Hear Of Progress in LSU Research

A report to the Southern section of the National Council for Stream Improvement meeting at Edgewater Park, Mississippi, recently, noted that substantial reduction of the B.O.D. of kraft waste liquors has been obtained by means of experimental methods developed at the Louisiana State University project.

It was reported that the process developed will be ready for pilot plant operation within the next six months and plans were discussed for meeting the financial and physical commitments required.

Mechanicville Improves

The Mechanicville N. Y. mill of West Virginia Pulp and Paper Co. was down two days in August, and two paper machines were down for two weeks each, chiefly for the purpose of improvements.

The two-day shutdown of the entire mill was so that new condenser water connections for the turbine could be installed, including a hook-up with the new 7500 kw turbine generator. The paper machines lost time for the installation of new size presses. The other four paper machines were operated on normal schedules.

WIDER MARKET PREDICTED

New uses of paper and rising standard of living were two reasons given by Louis Bloch, chairman of Crown Zellerbach Corp., for a prediction he makes of a "constantly widening paper market over a long term."

He pointed out that in 20 years per person use of paper in the U. S. rose from 220 to 358 lbs.



IN INDUSTRY NEWS — Left to Right—

D. KEITH McBAIN, who recently joined Los Angeles office of engineering firm, Sanderson & Porter, as Pulp and Paper Specialist. Mr. McBain was formerly Development Engineer for B-F-D Division of Diamond Match and pioneered in development of hydraulic barking. He is engaged in S. & P. project to step up efficiency of government-owned kraft pulp and paper mill, Cia Industrial de Atenquique, Jalisco, Mexico. S. R. Cann, head of Sanderson & Porter, Los Angeles office, Mr. McBain and Harold Cavin, Chief Engineer of Puget Sound Pulp & Timber Co., on leave to S. & P., made trips to Mexican mill (described in **PULP & PAPER's** May, 1948, issue).

J. D. DAILEY, appointed Kraft Mill Supt. at new Coosa River Newsprint Co., Coosa Pines, Ala., being operated by Kimberly-Clark and later to be operated by K-C for publishers' group. Mr. Dailey was Supt. at startup of Brompton kraft mill in Red Rock, Ont., and also on K-C staff at startup of the Longlac kraft pulp mill in Terrace, Ont.

JAMES M. OWENS, appointed Extension Specialist in Wood Utilization at N. Y. State College of Forestry, Syracuse, who will be liaison with industry, telling it about research services which the college offers. He was former plywood plant supervisor and previously was technical representative for American Cyanamid.

DR. PHILIP NETHERCUT, who has been appointed Chemist at Watervliet Paper Co., Watervliet, Mich. He was from the Institute of Paper Chemistry, Appleton.

MODERNIZATION PAYS Keeps Down Cost—Mead



GEORGE WILSON MEAD, President of Consolidated, emphasized how his company's expansion and improvements are now helping his company to keep down costs.

Consolidated Water Power and Paper Company, by cutting production to 94½% of capacity and effecting a "substantial" reduction of inventory, has "equipped itself to meet current economic trends," George W. Mead, its president, told stockholders at their annual meeting recently in Wisconsin Rapids, Wis.

Consolidated was one of the first companies to complete its postwar modernization and expansion, building a new streamlined book mill at Biron, Wis., and buying and converting to book the Wisconsin River newsprint 2-machine mill, and modernizing all of its other Wisconsin operations. Mr. Mead wasted no time in pushing through the modernization program, carried out under direction of his son, Stanton, vice president, and chief engineer, William F. Thiele.

Mr. Mead said that growing competition has made necessary a downward adjustment in prices. However he emphasized that favorable investments in machinery and other improvements during the past few years are now helping greatly in keeping down production costs. (See **PULPWOOD SECTION** for story on Consolidated's Woodlands "Pilot Plant" unit).

"We are not making more paper than we are selling, therefore putting none into storage or adding to our inventories," he commented.

The president said the company's paper machines are operating five and two-thirds days of the week, night and day, instead of six days as before the production cut.

Consolidated's Interlake sulfite pulp mill at Appleton, which supplies the pulp used in the company's paper plants, has been operating at from 75 to 90% of capacity, depending on demand for the pulp.

Trends in Lime Kilns

THEY ARE LONGER IN THE SOUTH

One of the marked trends in Southern mills is that toward longer lime kilns, illustrated here by two views of the Traylor lime kiln at Southern Paperboard Corp., Port Wentworth, Georgia.

These two views, taken by **PULP & PAPER**, are of each end of the rotary kiln taken from about the middle of the installation which is 300 feet long.

Advantages for the long kiln are, it is claimed, more efficient lime burning, reduced costs, higher heat, centrifugal dust collectors also seem to be favored in the South.

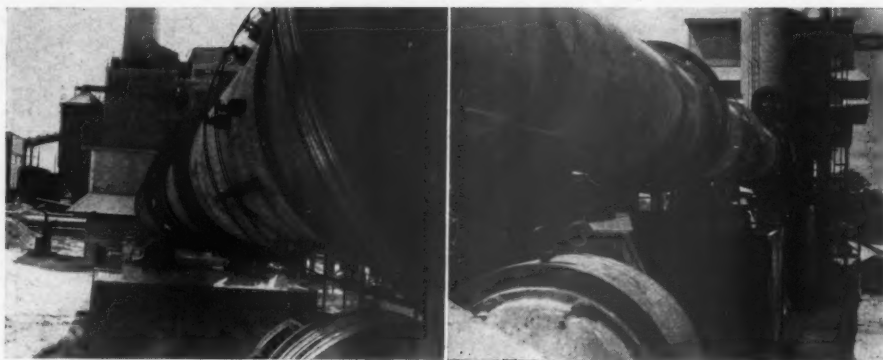
Among mills which have installed the "long kilns" are Southern Paperboard Corp., Port Wentworth, Ga.; Brunswick Pulp & Paper Co., Brunswick, Ga.; National Container Corp., Jacksonville, Fla.; Gaylord Container, Bogalusa, La., and Crossett Industries, Crossett, Ark. Most long kilns in the South are about 300 ft. long. There are mills with new 120 ft. kilns which they report to be equally satisfactory.

Lime usage as low as 20 lbs. per ton is reported by a mill in the Southwest which installed an AAF Rotoclone. The same kiln in two different mills may have widely different lime makeup equipment.

Requirements vary widely because of lime makeup sources for one thing. Some mills use oyster shells, some limestone and some water purification sludge.

Southern operators attribute the problem of rings to poor washing of lime sludge, although one mill has no filter and seems no worse off than others.

Most mills in the South are outdoors. Weather conditions permit this. A sudden rainstorm and power failure resulted in a warpage in one kiln but two weeks after the kiln was started up again the warpage disappeared.



THESE VIEWS BY **PULP & PAPER** show the two ends of the 300-ft. long Traylor lime kiln at Southern Paperboard Corp., the new board mill built at Port Wentworth, Savannah, Ga. The accompanying article discusses the "trends" in lime kilns in the South.

BROWN MILL INTEGRATION



Further integration and modernization of the Brown Paper Mill Co.'s plant in West Monroe, La., (shown above), including converting facilities provided by associated enterprises, brought an ad valorem tax exemption of \$5,540,000 from the State of Louisiana during 1948. These improvements created employment for 514 persons.

Exemptions from the state covered: Brown Paper Mill Company, \$4,250,000; Brown Paper Industries, \$350,000; Brown Container Co., Inc., \$690,000; and, Negley Bag and Paper Co., \$350,000.

The Brown mill is one of the oldest kraft operations in the South, and prior to the improvement program its equipment included four Fourdriniers and 16 rotary digesters.

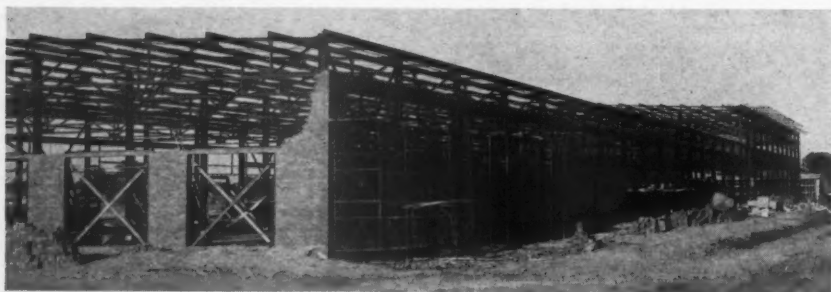
Improvements effected included the installation of a new 5000 KW General Electric turbogenerator; two Combustion Engineering recovery boilers; a Cottrell precipitator; a multi-knife chipper; Bailey flowmeters for feed water and elsewhere; and Warren stock pumps.

H. L. Brown, of San Antonio, Texas, is president; T. R. Moore, vice president and general manager; and Bunn Beasley, one of the "old timers" of the Southern industry, secretary and general superintendent.

C. E. Wilds, woods manager, served on WPB during the war years. The forest operation is equipped with International Harvester machinery.

TOTAL PAYROLL of the Houston Division, Champion Paper & Fibre Co., has now passed the 1000 mark. The division, which operates the mill at Pasadena, Tex., had 404 employees in December, 1938.

WORK PUSHED ON NATCHEZ MILL



Favorable weather has served to expedite construction work on International Paper Co.'s \$20,000,000 hardwood sulfate process dissolving pulp mill at Natchez, Miss.

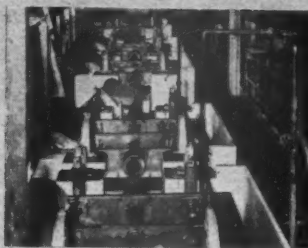
This view shows the lower floor and steel for upper section in place.

Note second building in rear.

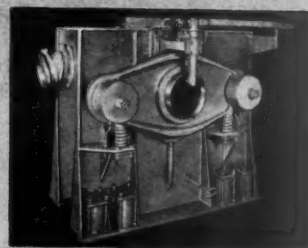
The project is scheduled for completion early in 1950.



BIRD SCREENS—standard of the world—essential for continuous maximum output of uniformly good paper.



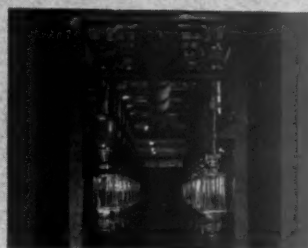
JONSSON SCREENS now handling some 25,000 tons of pulp per day, coarse and fine.



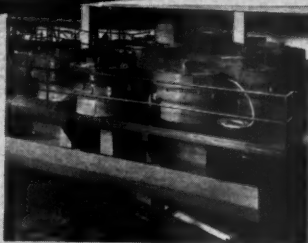
VIBROTOR SCREENS for quality screening of bleached or unbleached pulp—50 tons per day with .012" plates.

TEN TRIBUTES TO TAPPI

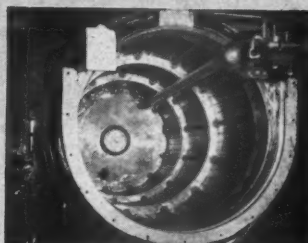
The urge to make better paper and more of it per day at lower cost per ton accounts for the widespread and successful application of each and every one of these items of **BIRD MACHINERY**



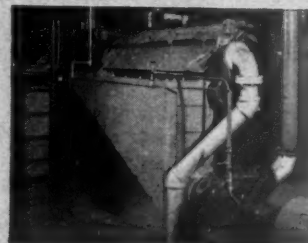
DIRTECS, the modern, efficient way to remove heavy and fine dirt ahead of Screens and as tailings units.



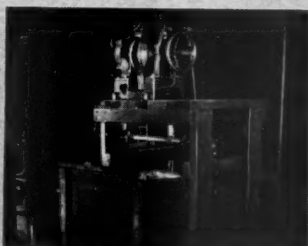
CENTRIFINERS for triple centrifugal treatment to remove dirt specks, metal, rubber, etc. from writings, condenser and other specialty papers.



SHOWER PIPES—the Bird Oscillating Shower increases screening efficiency—uses a fraction of the volume of water.



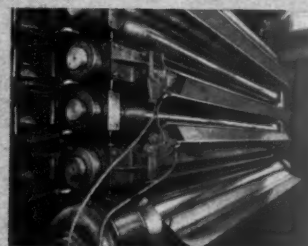
BIRD SAVE-ALLS for recovering good fibres from machine waste water at lowest cost per pound.



BIRD CONSISTENCY REGULATORS for holding stock consistency to not more than 0.1% heavier or lighter than desired. Dependable; trouble-free.



VICKERY FELT CONDITIONERS keep press felts continuously clean and absorbent without mid-week shutdowns.



VICKERY DOCTORS engineered for each individual press roll, wire roll, dryer, calender and super-calender roll.

For bulletins, recommendations, layouts, and estimates get in touch with

BIRD MACHINE COMPANY
South Walpole, Massachusetts

WHAT KRAFT MILL DID TO MAKE OPERATIONS FLEXIBLE

When periods of adjustment come along and the pendulum swings toward slackened demand, a stockholder — far away from the scene of actual operations — might say "now I wish I had that money that went into plant modernization and expansion."

But we are sure the operators at the big Crown Zellerbach kraft mill in Port Townsend, Wash., where a very comprehensive and carefully planned program of expansion, modernization and increased integration has been completed, are not doing any second guessing in that vein.

We didn't ask them any such pointed questions when **PULP & PAPER** recently toured these operations; but it was very evident in many ways that this mill is now in a much stronger competitive position than it was before the war. It is a more versatile mill, as well as more completely integrated one, and the operators could not help but feel more confident today of their ability to meet any stress or strain of business. These installations have meant savings in dollars and materials, as well as flexibility of operation.

The physical additions and what they achieve for Crown Zellerbach here are described in this article. The operators were so pleased with the way in which their "hands" have been strengthened that they recently held the biggest and most successful "Open House" at Port Townsend in its 21-year industry.

IN THE LAST CENTURY IN DAYS OF GREAT SAILING SHIPS, Port Townsend was a thriving seaport in the northwest corner of the U. S., and it seemed to have a great future ahead in commerce. Then the railroads pushed west and selected Seattle and Tacoma for terminals and Port Townsend became a "ghost town." But a greater and more stable prosperity than it had ever known came with the establishment of its paper industry 21 years ago. This view looks across the city of Port Townsend and across Puget Sound to snow-capped Mount Baker in Mt. Baker National Park. The paper mill is not in the picture—it is off to lower left.



SOME OF THE HEAD MEN for operations and engineering at Port Townsend:

Top left: LEONARD ZIEL, Resident Mgr.

Lower left: NORMAN A. LEWTHWAITE, Asst. Res. Mgr.

On right (top to bottom): HARRY E. BUKOWSKY, Plant Engineer; GUY EMERSON, Pulp Mill Supt., and J. H. QUIGLEY, Paper Mill Supt.

A party of stockholders—some of whom live in that beautiful evergreen corner of the United States and others who came many miles—were among 1700 persons who were guided through the mill.

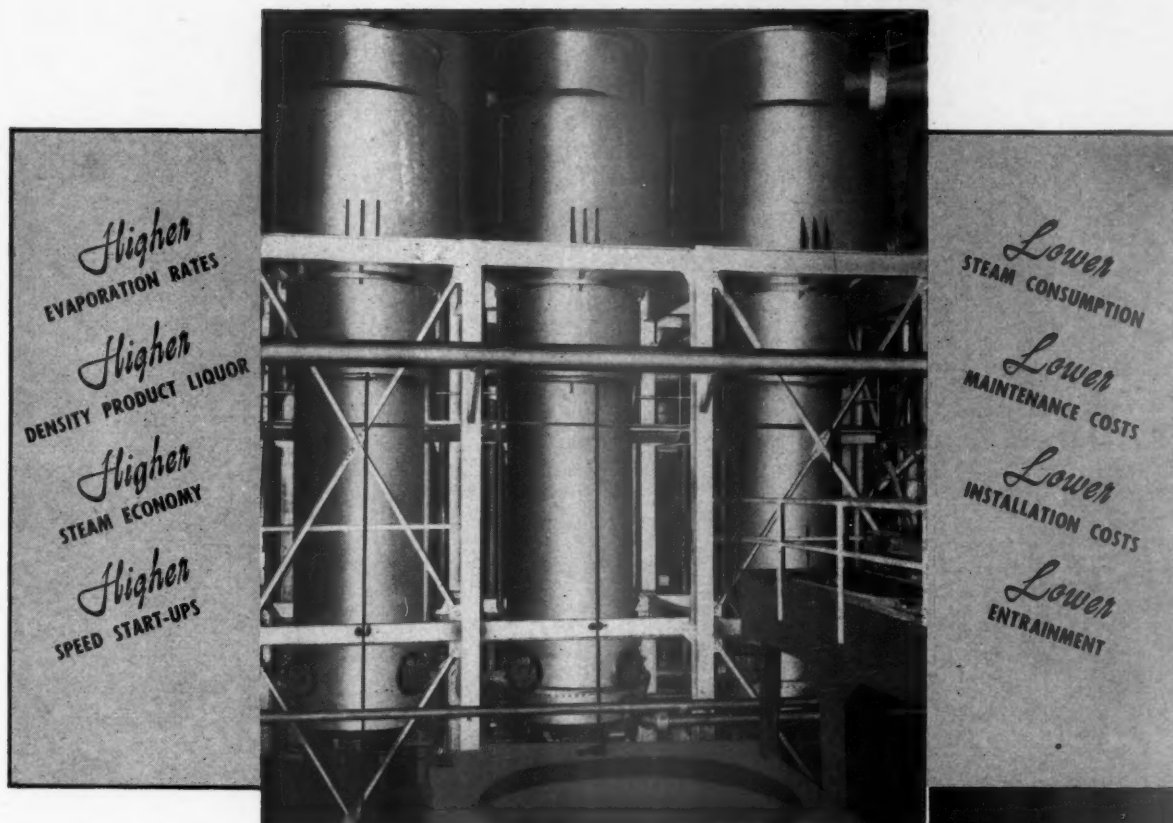
The stockholders in the Port Townsend Kraft mill include professional and business men in the famous sea-faring town of Port Townsend, which was the most important North Pacific haven for sailing ships a century ago; employes and other residents of Olympic Peninsula.

It must have been a satisfaction to them to see how this mill has grown in 21 years. The payroll has almost tripled to 630 persons who are earning \$2,100,000 a year. On this basis, the investment per job in the plant is \$13,645. It must also have been a satisfaction to the open house guests to see the mill making board six days a week and paper five days a week this summer and keeping things humming in week and paper five days a week this their little city—more than when the big ships used to call at this New England-like seaport before the railroads came west. In the past year, 110,000 tons of kraft pulp and 123,000 miles—yes, miles—of paper and 675 million grocery bags were made here. And since the new modern multi-wall bag plant has started up, it has also made 2½ million of 2-ply to 6-ply multi-wall bags per month.

"Know Your Industry" was the theme of the open house and guests included 800 school kids and teachers. They took away—each one—11 gifts of paper products, souvenirs, booklets, etc. A public address system, guides, sign-posts and arrows, exhibits, floral displays, paper hats, and even musical entertainment helped to make it one of the most successful open houses in the western industry.

A new hydraulic log barking plant, new chip screening equipment, new chemical recovery operations, stainless steel lined digesters, new pulp screening and washing equipment, new refining equipment—all this was ahead of the 251-inch Beloit Fourdrinier machine and 130-inch Black-Clawson cylinder board machine. And more than most visitors were aware—all that new equipment ahead of the two machines pushed their capacity output up to 310 tons a day. Thanks to what is behind them, these are really, in effect,

G-B Evaporators FOR BLACK LIQUOR



*Partial view of G-B Sextuple Effect Evaporator
at Crown Zellerbach Port Townsend Plant*

Typical of today's trend toward reducing steam costs by the use of more evaporator effects is the new G-B Sextuple Effect Evaporator at Crown Zellerbach's Port Townsend plant. This evaporator was installed as part of their modernization program to supplement older quadruple effect units. The saving in steam costs will quickly amortize this investment.

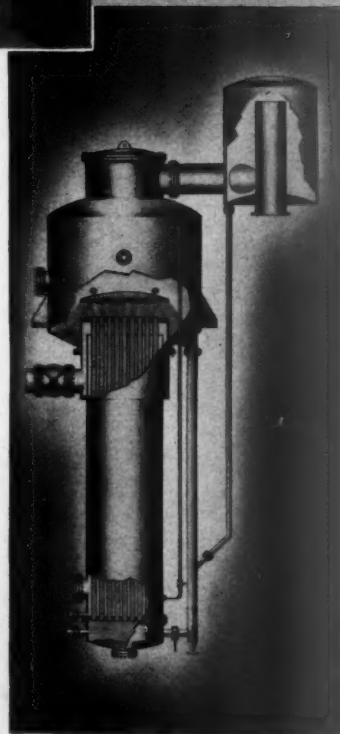
This unit and the other G-B Evaporators in the pulp and paper industry are establishing higher standards of performance. G-B engineers are continually working with the pulp and paper personnel in furthering the improvement of design and performance of black liquor evaporators.

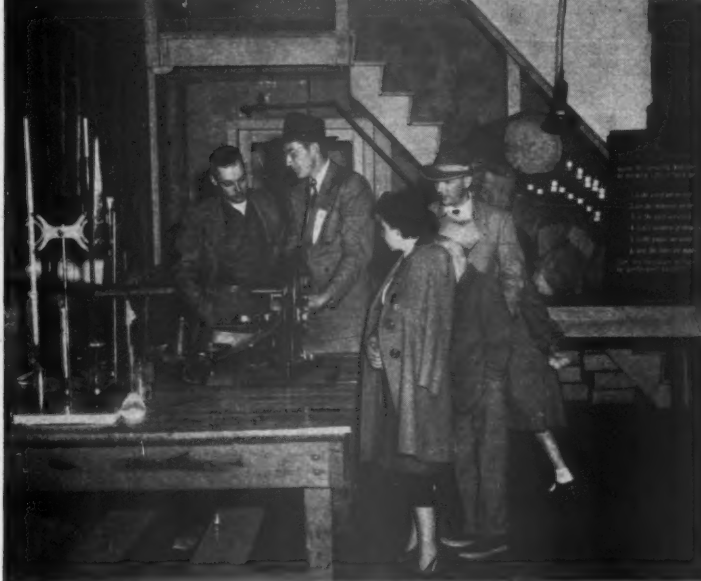
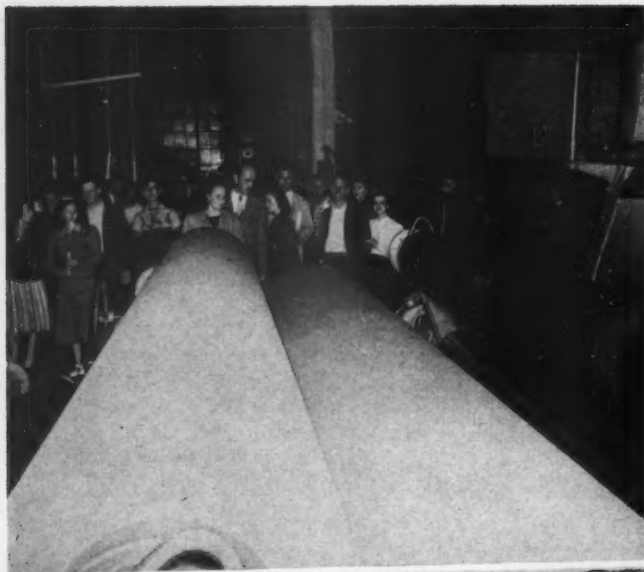
If modernization through additions or replacement of your present equipment is indicated by the need of lower production costs and greater plant efficiency, call in G-B's engineers for consultation and recommendations. No cost or obligation.

GOSLIN-BIRMINGHAM MANUFACTURING CO., Inc.

Birmingham, Alabama

NEW YORK: Goslin-Birmingham Mfg. Co., Inc., 350 Madison Ave.
CHICAGO: F. M. deBeers and Associates, 20 N. Wacker





VIEWS AT PORT TOWNSEND mill of Crown Zellerbach Corp.:

Top left: On Open House day, a group of visitors are viewing operations at dry end of No. 2 Machine—the kraft paper machine. The tall gentleman wearing glasses in the group is BOB FULLER, Forester and Woods Dept. Chief for the Port Townsend mill.

Lower left: Instrument panel in the turbine room.

Top right: Conveyor for small wood and for lumber trim which has been built outside the new barking plant. Wood from trucks is loaded onto this conveyor. Here it is shown carrying lumber edgings.

Lower right: Another Open House day picture. The gentlemen in hats looking over the Technical Laboratory display with visitors are: DON OSBORNE (left), Asst. Personnel Supervisor; and ED SHERMAN (right), Technical Director. That sign says "The Tech. Dept. assists operations by throwing light on how good—1. Is wood we receive? 2. Are chemicals we receive? 3. Is the pulp we cook? 4. Is our recovery of chemicals? 5. Is paper we make? 6. Are bags we make?"

"new" machines. The new multi-wall bag plant, with its varied equipment of latest type, is a significant addition, too.

Men Who Directed Improvements

The improvements at Port Townsend were carried out under the local supervision of F. Leonard Ziel, resident manager, who was the Leo Ziel of backfield football fame for the University of Washington in the mid-'20's.

Norman A. Lewthwaite, assistant resident manager and member of a family distinguished in pioneering the Coast industry, and Harry E. Bukowsky, plant engineer, had important roles in this modernization. Alvin J. Bogan, assistant plant

engineer for construction, and Edward F. Drake, assistant plant engineer for maintenance, are Mr. Bukowsky's chief lieutenants.

E. H. Vicary and W. J. Lowndes of Crown Z's Central Engineering Dept., Seattle, took a prominent part in planning the work.

Others with important responsibilities in this connection were J. H. Quigley, paper mill superintendent; Guy Emerson, pulp superintendent; Lawrence Harney, purchasing agent; Cecil Brown, wood mill superintendent; Ed Sherman, technical director and J. L. Van Valkenburg, chief electrician.

Staging the open houses, incidentally,

was the responsibility of Barney Mul-laney, personnel supervisor, and his assistant, Don Osborne, and Tom Wade, from San Francisco.

Wood Preparation

A notable addition alongside the new barking plant is an outside wood conveyor which will handle anything from 8 ft. wood to 24 ft. long—3 in. to 6 ft. diameter logs, taking wood directly off trucks. It is not necessary to dump this wood in the log pond, where most of the big logs still go on the way to the head rig. A high percentage of the new small wood supply is white fir which tends to sink in the water. The conveyor is built with a long

ANOTHER WOOD ROOM GOES MODERN WITH SUMNER!

THIS TIME IT'S THE KRAFT MILL OF CROWN ZELLERBACH CORPORATION AT PORT TOWNSEND, WHERE SUMNER-BUILT EQUIPMENT Once Again Was Chosen for the Job

Read the feature article in this issue of "Pulp and Paper" and note how the powerful hydraulic barker and huge chipper, both SUMNER-built, are used as key installations in the expanded and modernized wood room, with additional SUMNER products, as listed below, in every part of the new sawmill layout.

Notice too, the important role played by SUMNER machinery in forest conservation and the reduction of waste achieved by this versatile plant.



Photo shows special Chipper Feeding Device for SUMNER 175" Round Log Chipper in the new wood room at Port Townsend.

In addition to a number of items of machinery, previously furnished to Crown Zellerbach and used in their new wood room at Port Townsend, SUMNER SUPPLIED THE FOLLOWING MACHINERY AND EQUIPMENT SPECIFICALLY FOR THE NEW PROJECT:

- 1 175", 4-knife Round Log Chipper
- 1 Special Chipper Feeding Device
- 1 Bellingham Type Round Log Barker
- 3 Chip Screens
- 3 Chip Feeders
- Log Loaders
- Log Kickers
- Log and Wood Conveyors
- Concave Rolls
- Transfers
- Truck Unloading Devices
- Miscellaneous Wood Room Machinery

DETAILED INFORMATION
GLADLY FURNISHED ON REQUEST.



*Welcome, **TAPPI** Visitors!*

Here's hoping that your Fall meeting in Portland as guests of the Pacific Coast Section will be a grand success.

The program arranged for your entertainment will include visits to some of the splendid mills in the Portland area. As technical men you will find much of interest as you inspect these plants and you will see SUMNER machinery wherever you go.

SUMNER

IRON WORKS

EVERETT, WASHINGTON

In Canada: CANADIAN SUMNER IRON WORKS LTD., VANCOUVER, B. C.
EXPORT DEPARTMENT: PRAZAR & HANSEN LTD.

301 Clay Street, San Francisco 11, California, U. S. A.

September, 1949

49

Two Outstanding New Installations on the Pacific Coast

Two new PuseyJones Machines are now in operation on the Pacific Coast—at the East Antioch mill of Fibreboard Products, Inc.; at the Tacoma mill of St. Regis Paper Company. New in design . . . new in outstanding features . . . new in high speed, large tonnage production. Whatever your papermaking problem may be,

we will gladly show you what's new in PuseyJones Machines and what's on the boards for the future.

THE PUSEY AND JONES CORPORATION
Est. 1848. Builders of Papermaking Machinery
Wilmington 99, Delaware, U.S.A.



In attendance at Pacific Coast Meeting of TAPPI:

R. S. Johnston, Vice President
Frank M. Sanger, Chief Engineer
P. A. Jackson, Sales Engineer

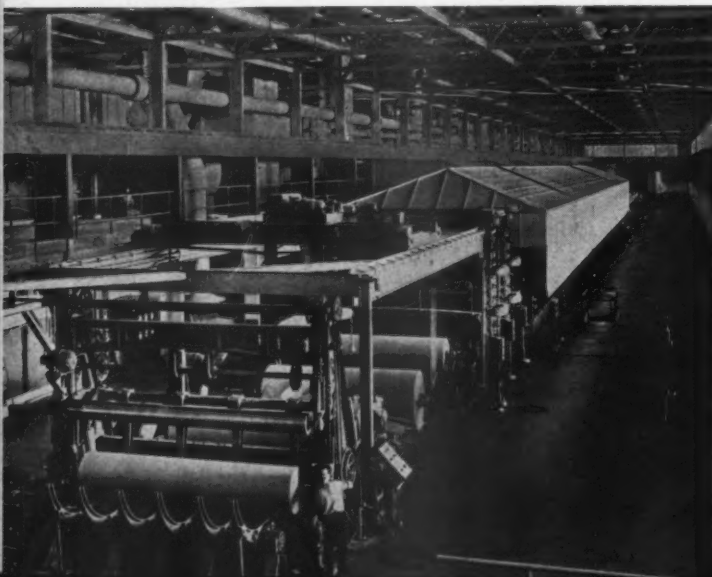


FIBREBOARD



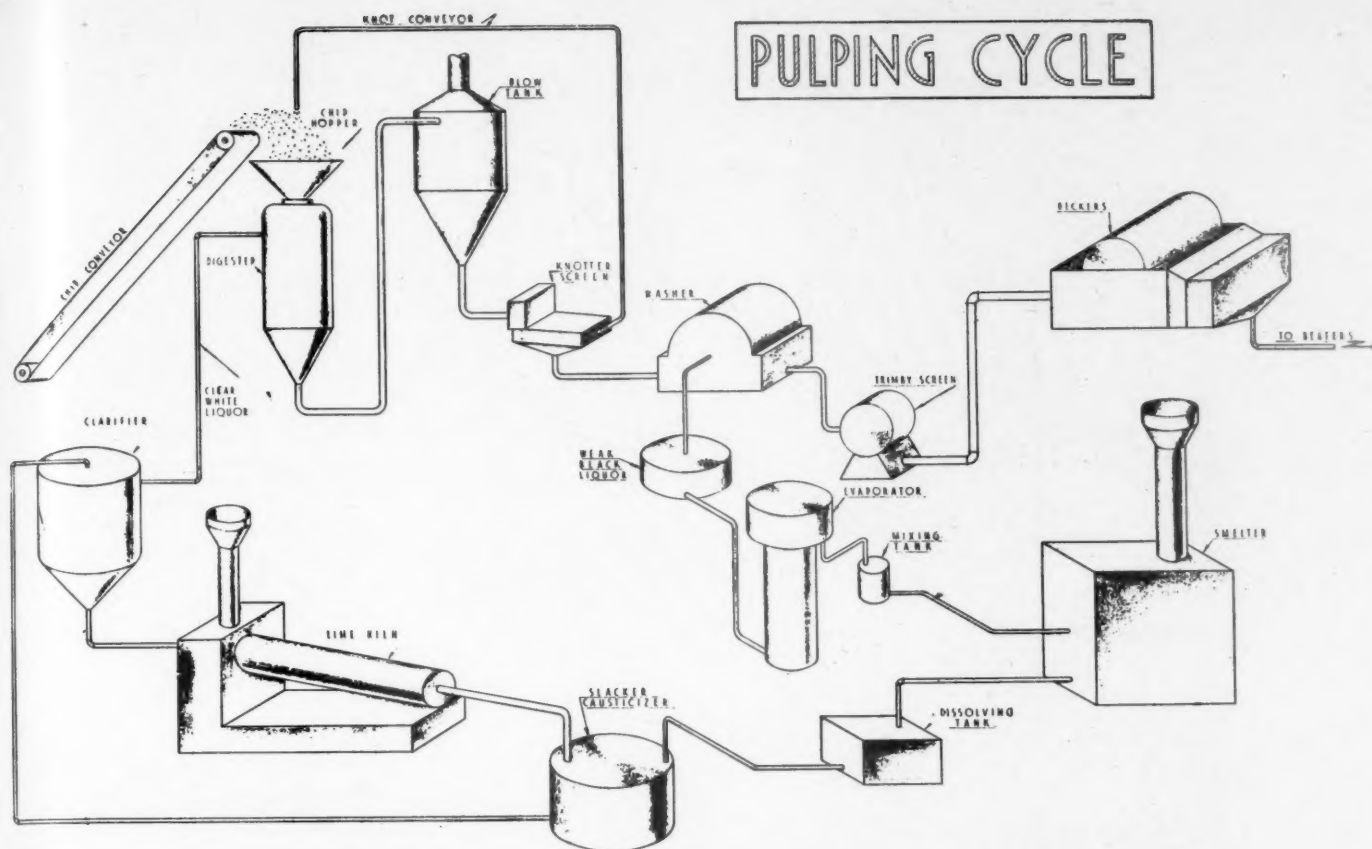
Two views of new PuseyJones Machine at Fibreboard Products, Inc., East Antioch, California. Wire width is 156 inches. Capacity is 125 tons of corrugated liner per day.

Two views of 180" PuseyJones Fourdrinier Machine at Tacoma, Washington mill of St. Regis Paper Company. Designed and constructed for top speed of 2100 F.P.M. making high-test multi-wall Kraft Bag Paper.



ST. REGIS





FLOW SHEET showing new pulping cycle at Port Townsend, Wash., kraft mill as described in this article.

storage deck so that it can handle enough wood during the day to supply the plant through the night shift.

The new barker plant is a steel frame building with H. H. Robertson Co. Protected Metal corrugated steel-fiber glass covering which provides insulation valued at the equivalent of a 12-inch masonry wall. Panels are easily removed for installation of machinery.

For stability, there are 700 yards of concrete in the basement of this plant beneath the powerful big chipper which handles logs of several tons each.

Here is a barking plant which for flexibility of operations stands out as a step forward in the modernization of wood rooms in this industry. In the middle of the plant, still available for wood which is difficult to clean hydraulically, and for emergency use, is the Stetson-Ross knife barker for cants. In a well-planned layout around it are the new Bellingham wheel-type or roll-type hydraulic barker for large logs; the hydraulic slab barker with its 84-inch, 8-knife Sumner chipper; the Sumner 4-knife chippers for other wood—one 175-inch and two of 110 inches diameter; and the sawmill breakdown plant for canting the logs which are defective or the occasional logs too huge for even the 42-in. mouth of the big chipper. There is also an Allis Chalmers 9-ft. band mill for cutting logs over 42 in. diameter.

Because of the ingenious layout here, logs or slabs or wood trim can be taken in several optional directions over conveyors. From the outside conveyor al-

ready described, most of the small farm wood or sawmill trim is conveyed without barking direct to one of the smaller chippers. A log can be conveyed around the plant a second time if it is decided to send it by a different route. Logs can be shunted off to the breakdown plant and returned as cants from the new outside "dry-land" conveyor as well as from the big water-side log haul.

It will be recalled that the Port Townsend mill was one of the pioneers in development of hydraulic barking, with the installation in 1943 of the first lathe-type hydraulic barker developed by its plant engineer, Mr. Bukowsky (described in **PULP & PAPER**, Feb., 1944 issue), and since then installed in several other U. S. and Canadian mills. Very simple in design and operation, it served its purpose well during the war emergency. Inevitably, improvements in efficiency would be made. So, after Puget Sound Pulp & Timber Co. successfully developed the versatile wheel type barker at its Bellingham plant in late 1946 and turned over sales rights to Sumner Iron Works, it was typical of the progressive outlook of the Port Townsend mill that it should be the first to adopt this latest design.

As in its previous set-up, the new barking plant is capable of savings of wood up to 20% in big logs but Port Townsend is now using so much farm wood and sawmill trim that the "savings"—even greater than this indicates—are largely outside the plant, and are more truly calculated in the forests where

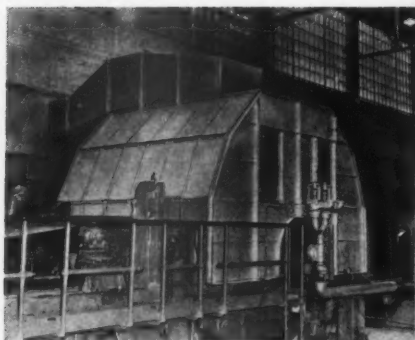
thousands of acres are being saved for the future.

In the lathe-type barker, logs from 9 to 54 inches diameter and 12 to 22 ft. long were barked, but in the new barker even greater versatility is achieved, the condition and shape of the log is not so critical, and the log can be rotated in either direction. Instead of being lifted and turned between a tail stock and driving head, logs are now cradled and turned on 4-ft. diameter toothed wheels on parallel shafts. Logs from only 3 inches diameter up to 7 ft. can be handled if desired, and the spacing of ten wheels on each shaft make it possible to handle lengths from 8 to 24 ft. turning at speeds up to 65 r.p.m. The nozzle travels parallel to the log and above it on a carriage at speeds of 30 to 300 ft. per min. Position of the nozzle in relation to log is adjustable and flexible couplings protect the nozzle head from damage on uneven logs. Simplicity which Crown Z achieved in its pioneering barker is the characteristic of this new one, also, but its flexibility is greater (complete account of Bellingham type barker in **PULP & PAPER**, Oct. 1947, issue).

A seven-stage Bingham pump on the new big barker at Port Townsend provides up to 1400 lbs. psi. at nozzle mouth and is driven by a 1250 hp. induction motor made by Elliott Co., Ridgeway, Pa. There is 1500 gallons per minute of waste water used from washers.

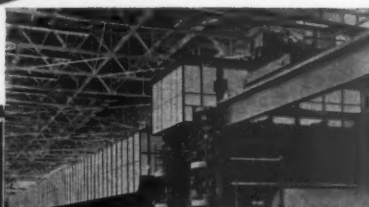
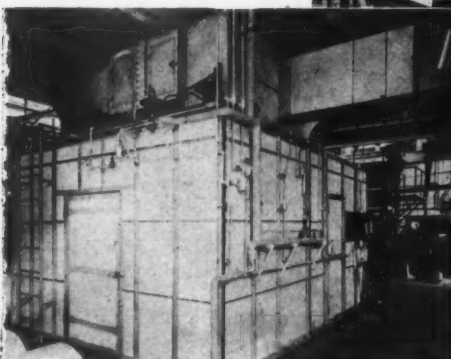
The big 175-in. chipper, whose four

Equipment for handling 100,000,000 CFM of Air for the Industry ... and all



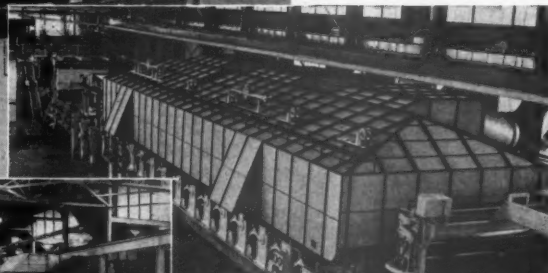
Crown-Zellerbach (Camas)

Below—Everett Pulp & Paper Co.

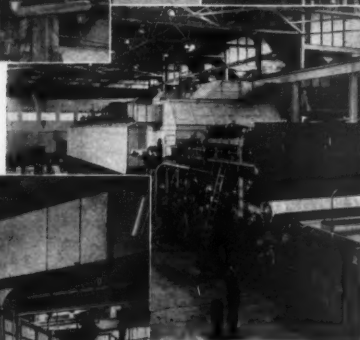


Left—Southern
Paperboard (Gair)

Below—Fernstrom
Paper Mills



Below—Macon
Kraft Co. (Mead)



Above—Brown
Company



ROSS MACHINE SYSTEMS

Hood	Calender Cooling
Exhaust	Trim Conveying
White Water	Motor Cooling
Briner Fresh Air Economizer	Frame Ventilation
Fresh Water	Vat Ventilation
Vapor Absorption Regular	Suction Apron
Stack Yankee	Flat and Revolving Brush
Grewin	Infra-Red
Dryjector	Radiant Heating
Felt	Supertherm
Pit Ventilation	

ROSS MACHINE ROOM SYSTEMS

Machine Room Exhaust
Wet End Ventilation
Heating and Ventilating
Summer Ventilation
Air Make-up

ROSS AIR CONDITIONING

General Air Conditioning
Cycle Conditioning
Constant Temperature
and Humidity

ROSS STOCK PREPARATION SYSTEMS

Beater Room Heating and Ventilating
Hydrapulper Hood and Exhaust
Heater Hood and Exhaust
Roberts Grinder
Great Northern Grinder
Magazine Grinder
Pocket Type Grinder Exhaust
Hooper Smelter

ROSS BLEACH PLANT AIR SYSTEMS

Heating and Ventilating
Exhaust from Washers (two types)
Exhaust from Towers
Ventilation Control Rooms
Ventilation Pulpits, Panels and Motors
DIGESTER ROOM VENTILATION
GENERATOR ROOM VENTILATION

all supplied by one organization

For more than a quarter of a century practically all the industry's mills have selected the same firm to design and install their air handling equipment.

That's
ROSS Engineering



When so many of the companies that make up an entire industry come to ROSS ENGINEERING for their air handling equipment and service, it can mean but 3 things: They recognize the importance and the cost of AIR as a papermaking material; they have figured the sizable extent of the monetary savings that efficient air handling apparatus can produce; they prefer to utilize the most extensive knowledge and experience available for designing and building such apparatus to make certain that they get maximum efficiency from it.

To provide this industry wide service, ROSS maintains the most extensive and complete facilities for consultation, engineering, manufacturing and installing. These facilities are available from coast to coast for every problem—large or small—that involves the use of air. Remember, ROSS takes full responsibility for the performance of Ross Equipment—and that is a mighty important consideration.

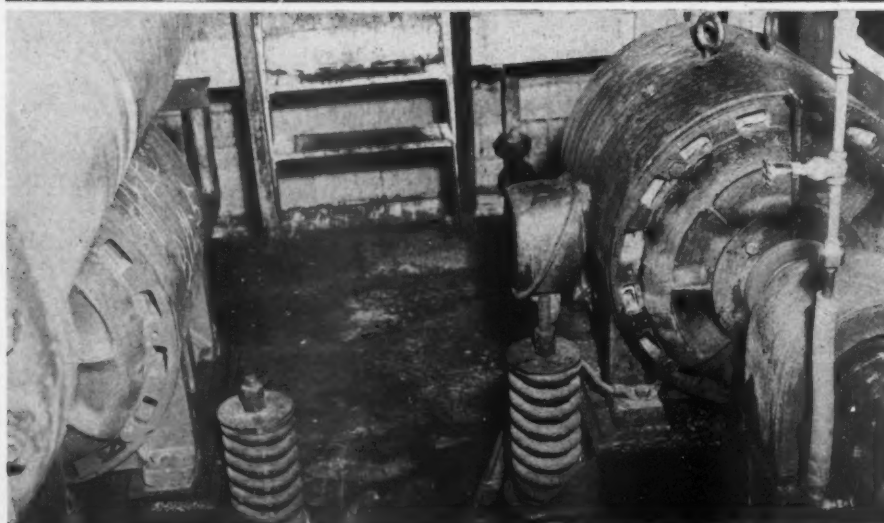
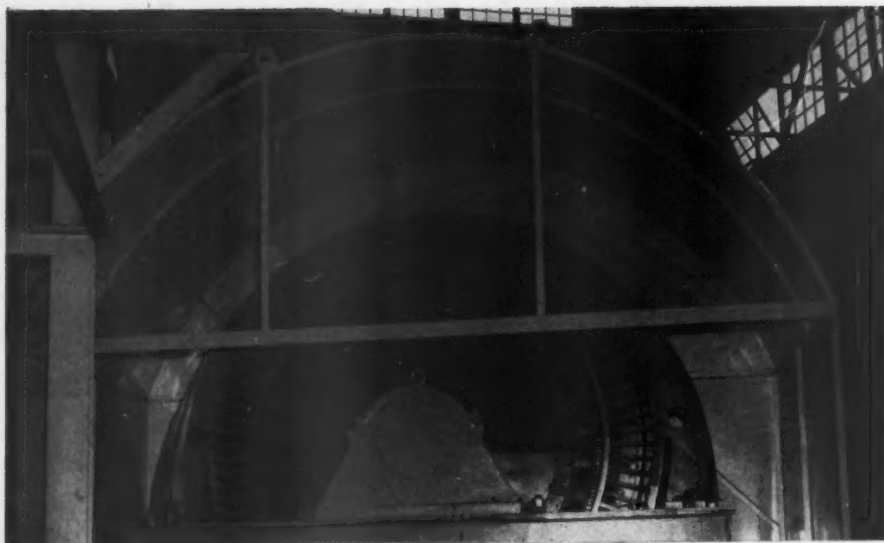
J. O. ROSS ENGINEERING
CORPORATION

Manufacturers of Air Processing Systems

350 MADISON AVENUE

NEW YORK 17, N. Y.

301 N. Wells Street, CHICAGO-6 • 79 Milk Street, BOSTON-9 • 9225 Grand River Avenue, DETROIT-4 • 600 St. Paul Avenue, LOS ANGELES-14
ROSS ENGINEERING OF CANADA, LIMITED, MONTREAL 19, CANADA • CARRIER-ROSS ENGINEERING COMPANY, LIMITED, LONDON, ENGLAND



knives are each 48 inches long, is driven by a Westinghouse Electric Corp. 1500 hp., 240 rpm. synchronous motor and they are both served by overhead 50-ton crane made by Ederer Engineering Co. of Seattle.

The slab barker was designed by Frank Swift, Crown Zellerbach engineer who developed it at Crown Z's former Cathlamet sawmill. The same pump and water system is used for both hydraulic barkers which generally are not being operated at the same time. Slabs pass through the machine on spiked chain conveyor, end to end, with an oscillating, hydraulic nozzle overhead, in contrast to a series of stationary nozzles used on other slab barkers in Coast mills.

For the first time in this kraft mill, all chips are now being screened in the new screening addition. There are three Sumner shaker screens, and the fines are one below the other, and the fines are screened through the bottom screen with a 5/32-inch mesh. All oversize chips go to a Lombard chip crusher and sawdust and much of the dirt is discarded to hogged fuel. Four Pioneer Rubber Mills belts take chips from the chippers, one belt from bin ahead of the screens, one belt from the big chipper being 60 inches wide and the others 36 inch. The new screen system provides cleaner chips and prevents oversize chips entering digesters where they would be only partially cooked. The large belt is to surge bin; the smaller ones direct to screens.

An inclined 36-inch Pioneer belt carries screened chips to digester storage. On all the belt conveyors mentioned the transmission equipment is by Link-Belt Co.

Pulp Making

Quite a number of significant changes have been made in the digester house. An eighth digester was added and instead of the conventional steel plate interior for kraft it has an A. O. Smith Corp., spot-welded stainless steel 18-8 alloy (18% chrome, 8% nickel) lining. This was done in 1948 and early this year a similar A. O. Smith lining was provided in a new No. 1 digester. Shipped from Milwaukee, spot-welded sections were erected by Hydraulic Supply Co. of Seattle. The new linings are expected to greatly add to the life of the digesters and to efficiency of operation.

The Port Townsend digesters are of 2500 cu. ft. capacity and yield 6½ tons of pulp each.

Further improvements are new—Electric Steel Foundry Co. external heat exchangers, also made of 18-8 stainless steel alloy, on all digesters. Also, Fibre Making Processes circulating pumps on Nos. 1, 7 and 8 of 1800 gals. capacity each, with

VIEWS OF BIG CHIPPER AND MOTOR AND PUMPS AND MOTORS FOR HEAT EXCHANGERS at Port Townsend:

Top: 1500 hp. Westinghouse motor and behind it big whole log Sumner Iron Works 175-inch chipper.

Middle: A big log dropping into giant chipper's mouth.

Below: Fibre Making Processes pumps and motors for new heat exchangers, added on digesters.



Saving the crop that makes our pulp and paper

Timber, like corn, is a crop. Timber must be nurtured and protected if the industries it supplies are to prosper and the public is to get good products at reasonable prices. The leaders in the timber business are scientific forest farmers with a long range growing program, an important part of which is the protection of the forests from devastating insects.

Among the insect enemies of the coniferous timber crop, the spruce budworm is most destructive.

This spring, private interests joined with federal and state control authorities in a large scale attack on the spruce budworm in the Northwest. Pennsalt was called on for an insecticide to be sprayed from aircraft. A new DDT compound, a Penco forest insect spray, was quickly produced at Pennsalt's

Portland plant. When sprayed over 260,000 acres of Oregon spruce and fir, it killed 97% of the spruce budworm larvae.

Pennsalt will continue to apply its long experience with food crop insecticides, to the problem of protecting our forests from insect damage. Pennsalt also supplies effective herbicides to keep down the undergrowth which blocks forest roads.

These products for the timber grower are another contribution to the pulp and paper industry to which Pennsalt has been a supplier of caustic soda and chlorine for many years. All these products are made in the Northwest from Northwest raw materials and with Northwest power.



PENNSYLVANIA SALT MANUFACTURING COMPANY OF WASHINGTON

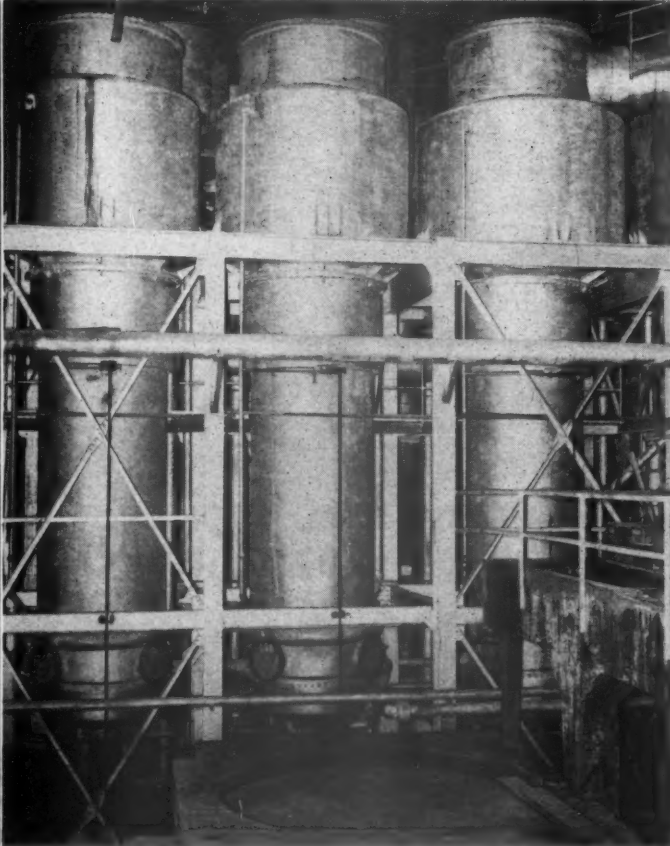
TACOMA, WASHINGTON

PORTLAND, OREGON

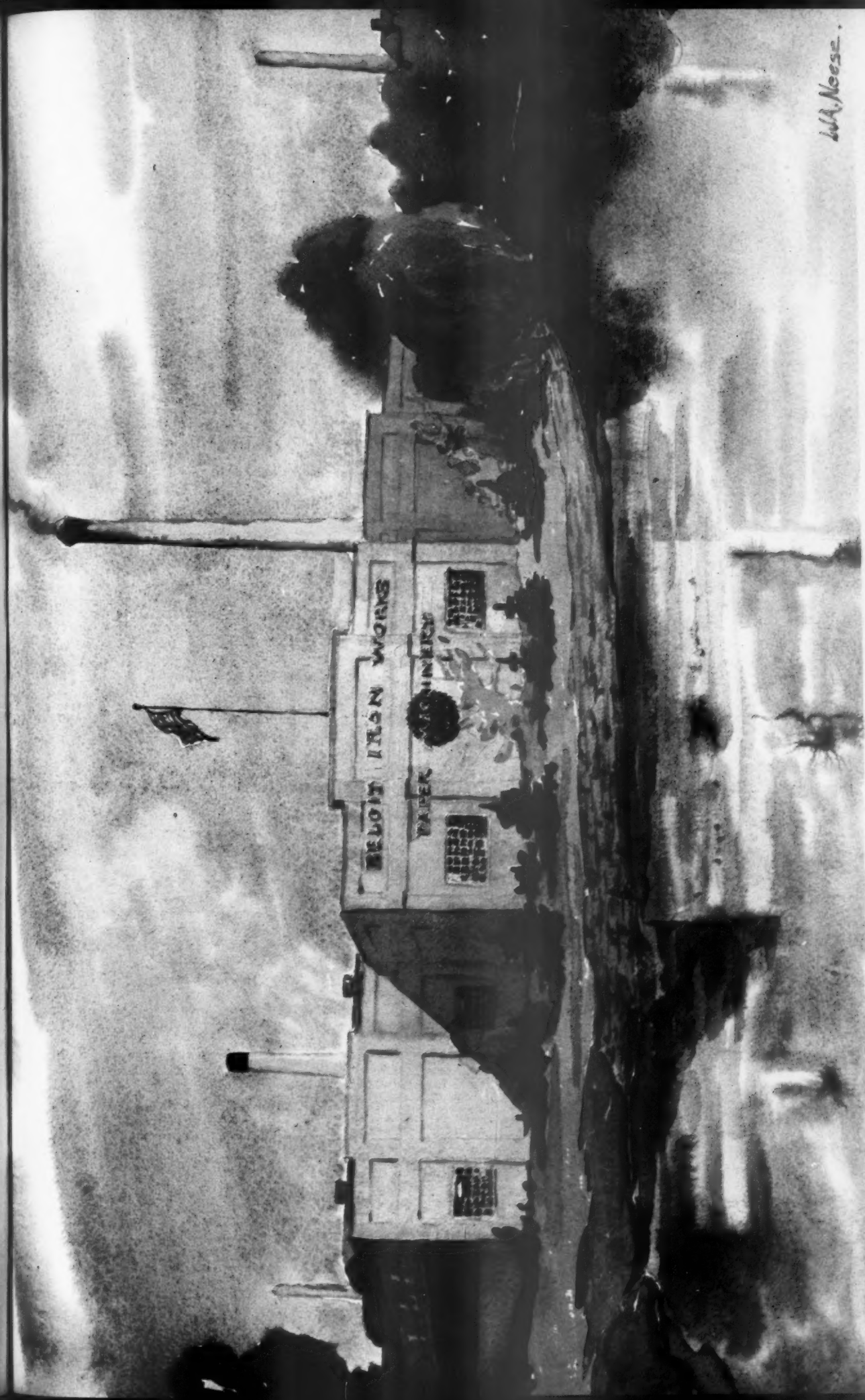
LOS ANGELES, CALIFORNIA

September, 1949

55



NEW EQUIPMENT AT PORT TOWNSEND which saves wood, improves cooking technique, saves steam and cuts down costs by increased integration.
 Top left—New and versatile Bellingham type hydraulic log barker.
 Top right—Sumner Iron Works also supplied this chip screen system.
 Lower left—Smith & Winchester tuber making multi-wall bags.
 Lower right—Goslin-Birmingham evaporators.



W.A. Neese.

WATER COLOR PAINTING BY L. J. A. NEESE

Known to paper makers the world over, the big modern plant of Beloit Iron Works at Beloit, Wisconsin, includes over 400,000 square feet devoted exclusively to the manufacture of pulp and paper-making machinery. From this plant on the Rock River have come precision machines of highest quality since 1858.





circulation to the heaters. This has given more thorough cooking penetration and more uniform cooking conditions.

Pulp washing and screening improvements include a new Swenson-Nyman 9x12 washer, making five washers in all, and five new Bird Jonsson knotter screens, one ahead of each washer. Knots are re-cycled through a Stephens-Adamson Redler conveyor to chip bins above the digesters for re-cooking.

Five new Trimbey Mfg. Co. screens, fitted with Monel plates with .090 perforations, have replaced the older centrifugal type screens on the board machine side of the mill after the washing stage. Rejects from both the board machine and the paper machine side are then screened over two lines of Impco flat screens and the rejects are reprocessed.

Refining

A new Model No. 185 36-inch Bauer Bros. Pulper replaced a hammermill used in preparing pulp from screenings for liner board. The Bauer machine makes a desirable pulp for liner because it brushes and works upon the diameter of the fiber rather than its length. The two corrugated facing discs of the Bauer are each driven by a 150 hp motor, one on each side.

For paper pulp stock, a parallel improvement has been the installation of three Morden Stock Makers each driven by 150 hp. Westinghouse synchronous motors. After the Mordens are the previously existing equipment—12 E. D. Jones beaters and six E. D. Jones Majestic jords. The stock passing through the Mordens is thus prepared for additional beating and refining in the other equipment, resulting in higher strength paper. For some grades, it is found advantageous to by-pass beaters, using only the Mordens and jords. This arrangement of using Mordens to pre-treat pulp ahead of its treatment in existing beating and refining equipment is an interesting application to gain additional treatment capacity with resultant quality improvement.

The DuPont Co. color conditioning engineered for greater safety as well as for pleasanter and more efficient working conditions, have been carried out in the expanded beater room and also in the big machine room of this mill. A bright and attractive atmosphere, as a result, made a favorable impression also on the open house guests.

Recovery

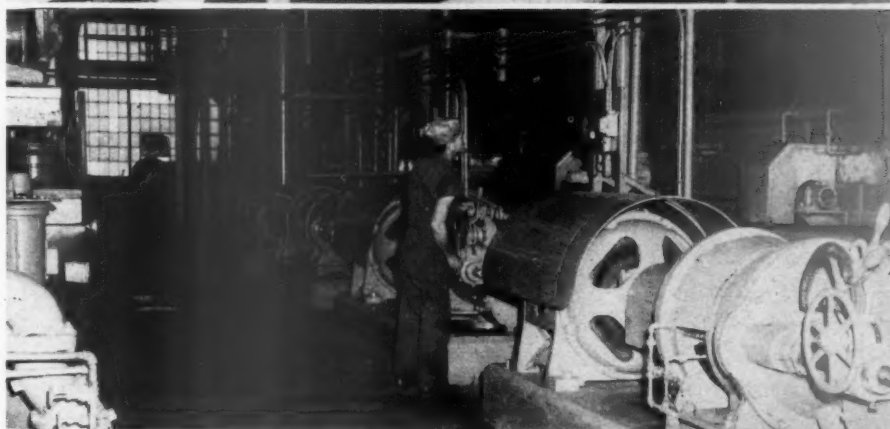
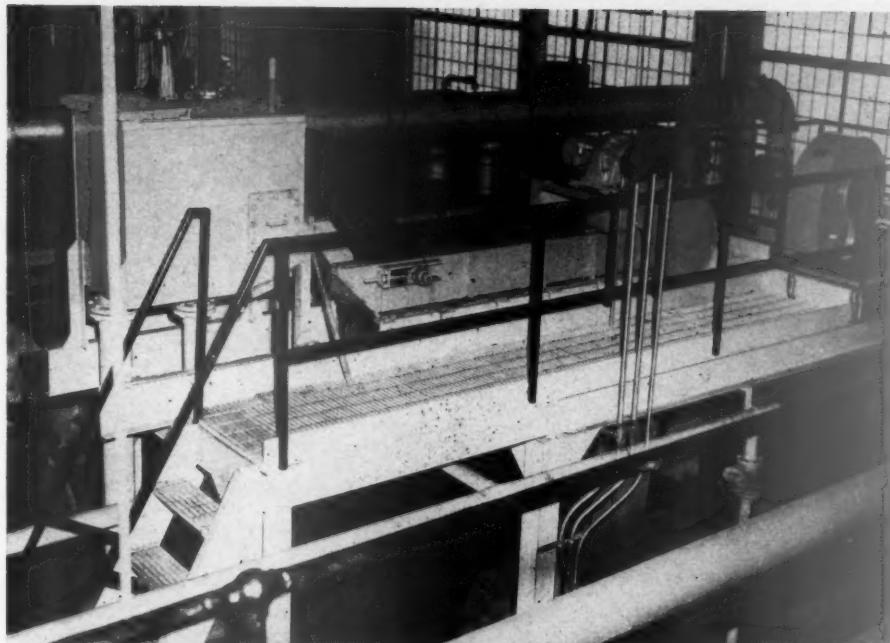
The chemical and recovery plants of the mill also have additional equipment which have added to efficiency and flexibility. A film-type sextuple system of Goslin-Birmingham evaporators has been installed with fitted stainless steel tubes in the

PULP PREPARATION equipment at Port Townsend makes existing paper machines more versatile—better able to meet competitive demands.

Top—Bauer Bros. Pulper, Model No. 185, which is used ahead of the board machine.

Middle—Battery of three Morden Stock Makers which provide diversity for refining of kraft paper stock.

Below—Operator adjusts controls on new Swenson-Nyman washer.



first effect. This system replaced the old style vertical tube evaporators which required comparatively higher pressure steam.

A Dorr white liquor system has also been installed with some equipment larger than customary in pulp mills. This includes a 27 ft. high, 28 ft. diameter clarifier of five compartments. Higher and with one or two more compartments than usual, it meets capacity needs of the Port Townsend plant.

Settled calcium carbonate sludge is then washed in a Dorr dregs washer 27 ft. in diameter and 22 ft. high, with four compartments. It is further washed over an Oliver sludge washer and the cake is sent to two 110-ft. long, 8-ft. diameter lime kilns. New equipment in the kiln plant are Brown Instrument Co. radiation pyrometers which automatically maintain constant temperature in each kiln.

The Infilco clarifier which had been used on white liquor is now used for green liquor.

Multi-Wall Bag Plant

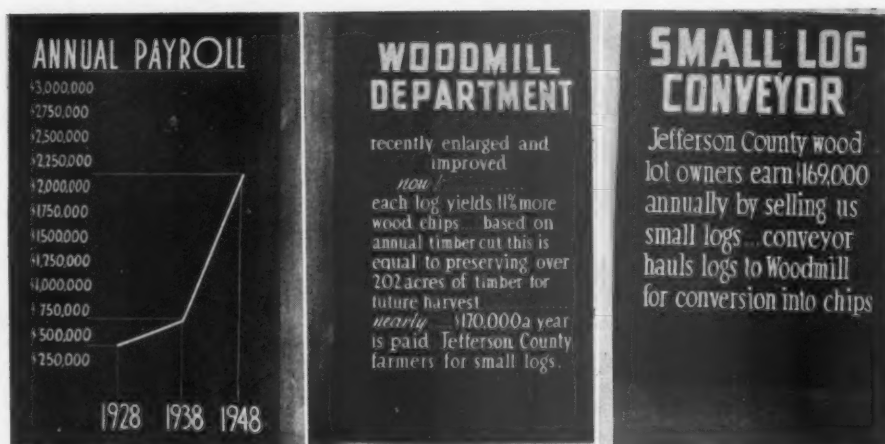
The new steel and concrete multi-wall bag plant, a big addition to existing bag-making and finishing facilities, is located on the opposite side of the offices to the mill itself. It is an airy, modern plant with a great variety of equipment, including a Smith & Winchester tuber; a Coty tuber and Coty single bottomer; a four-color press; 11 sewing machines; 13 grocery bag machines; a carry bag machine; a wax dipper; valving and specialty equipment. The plant has its own technical and testing department and its own supply and machine room.

A Coty double bottomer is on order for early delivery.

The intricate multi-wall tubing machine developed by Smith & Winchester Mfg. Co., of South Windham, Conn., produces sewed valve type bag tube in a wide range of sizes and from different plys, and these paper products are proving them-

(Continued on page 62)

ONE OF THE BIG EVENTS OF THE PORTLAND, ORE., CONVENTION OF THE TECHNICAL ASSOCIATION will be the WOODS TRIP to the Weyerhaeuser Timber Co.'s Mt. St. Helens Tree Farm. (See program, page 69). Not since the last meeting in the West in 1940 has a national convention offered such a thrilling, spectacular event. But the delegates are going to have to rouse out of their slumbers early on Monday, Sept. 12 — buses leave the Hotel Multnomah in Portland at 7:30 a.m. They will see these logging and forests scenes after boarding a special logging tour train at Longview.



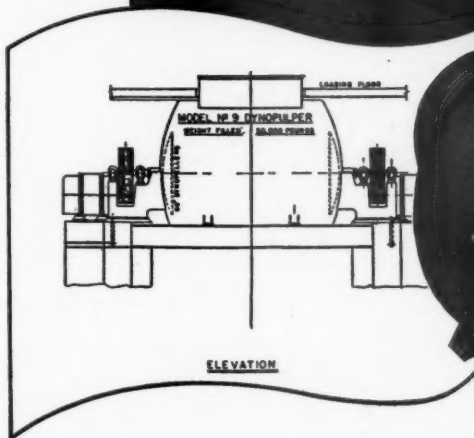
HERE ARE JUST A FEW SAMPLES of signs strategically placed during the Open House at the Port Townsend mill. Most of them were used to identify important equipment. The information on these signs were interesting—rise in payrolls; saving of 202 acres of timber annually because of the new wood plant; the new income for farmers of \$169,000 annually.



Here's the new

DynoPulper

—completes treatment of
paper stock in one machine



The DynoPeller

is the heart of all DynoMachines. Its concave face is lined with rough, hard carbide particles. As the DynoPeller rotates it causes a suction at its center that pulls the stock towards it. Centrifugal force then causes the stock to flow rapidly over the rough carbide particles. This effective dynamizing action completely disintegrates the stock . . . separating each fibre from its neighbor while maintaining its original length.

The DynoPulper

is a highly efficient machine for disintegrating pulp, waste paper or any type of stock. The stock is charged all at one time into the top of the horizontal circular vat. It is vigorously dynamized by two opposing DynoPellers—as described at the left. The fibres are quickly and completely separated . . . at surprisingly low cost.

The DynoPulper is used for either batch or continuous operation. Also available in laboratory sizes. Write for additional information.

RBR-3



selves in many exacting tests, as in use for cement, etc. Schmutz Manuf. Co. of Louisville, Ky., made the four color press. The carry-bag machine making a phenomenal 6,500 bags per hour is a product of Potdevin Machine Co. of Brooklyn, N.Y., and the Coty Machine Co. at Watertown, N. Y., made novel equipment mentioned by that name. The multi-wall plant added substantially not only to employment rolls but to integration and diversity of products at Port Townsend.

All of these additions have contributed to important savings of money and raw materials and to a versatile industrial plant which gives a permanence and strength to the industry, to the community and to wood farm production of the surrounding countryside which it had never before had in Port Townsend's more colorful but fleeting past.

Newsprint Demand In Communist China

Business has been at a standstill in Shanghai owing to political unrest, but the demand for newsprint in Communist China is already heavy and will grow as communications with the hinterland are gradually being restored, according to advices received by a big Canadian pulp and paper company from its Far Eastern agents.

Both newsprint and pulp have been specified as permissible imports by the Communist authorities, but foreign exchange is extremely limited.

This authority estimates that the demand for newsprint in China over the next 12 months will exceed 100,000 tons.

HARDY TAKES DOWN SIGN

A Chapter Ends in Industry History

With great regret and a long, reminiscent look back over 50 years, the firm of George F. Hardy & Son now retires from the mill architectural and consulting field.

The move comes as a surprise to many, but had been in the mind of John A. Hardy for several years. Although not in ill health, he had been advised by his physician that the stress and strain of modern engineering work might impede his enjoyment of a later retirement.

Therefore, both Mr. Hardy and the firm "take down their sign" in the prime of their activity. When **PULP & PAPER** interviewed Mr. Hardy in his offices at 441 Lexington Ave., New York, on the eve of the firm's 50th anniversary, two big jobs had just been completed and three more (which will now go to another firm) had been submitted for action.

Mr. Hardy will retire to his country home on Route No. 1, Salisbury, Conn., and devote himself to his family and to several research studies. He is one of two sons of the late, great mill architect and engineer, George F. Hardy, who died in October 1947, still in harness at 82. Another son is a newspaper publisher in Florida. Said the Hardy who has for 26 years been active in the firm: "It is with great regret that I cannot proceed with our work in the industry, to the end of my active life, as my father did."

Despite many attractive offers, Mr.

Hardy refused to sell the company good will, name, and 50-year records. To all customers of the firm, past and present, he wrote letters advising of his decision, and telling them that all written records, lists, estimates, copies of contracts, letters, and original tracings, were available to the mills concerned. If any mill does not want its records they will be destroyed, Mr. Hardy said.

Although Mr. Hardy refers to the firm's 50th anniversary, dating it from the time his father purchased the business of A. B. Tower in Holyoke, the late George Hardy's history in the industry goes back much further. He was active in mill design and hydro-electric power development at least as early as the Nineties. Born in Poquonock, Conn., the elder Hardy graduated from Dartmouth and received the honorary degree of doctor of sciences there in 1926. The son is also a graduate of Dartmouth and of Columbia as well. For more than a quarter of a century it was a father-son team. The firm did work or made reports for companies in Ireland and England, Canada, Mexico, South and Central America, and in almost every European country, including the Scandinavian.

"You might say that we worked where anybody even dreamed there might be timber suitable for pulping," Mr. Hardy said. "We even made a report for a fellow on the Amazon who had an idea that he could put a pulp mill on the river, move from one timber stand to the next, and ship his pulp down-river in bales. If I remember correctly, we said that one was not practical!"

The names of even a small number of the many mills built or improved by George F. Hardy & Son will bring a gleam of memories to the eyes of many a reader. Among the names for which the Hardys built mills, expanded them or improved them, or made exhaustive reports for, are: Laurentide, the first newsprint mill in Canada; Kimberly-Clark at Kimberly, Wis.; St. Croix, of which Mr. Hardy is a director; Anglo-Newfoundland, Bishop Falls mill of Anglo-Newfoundland; Powell River, Everett Pulp & Paper, Price Bros., Union Bag, Abitibi, Chesapeake-Camp, Mead, Crown Z, Pacific Mills, Hollingsworth and Vose, Northwest Paper, Scott Paper at Chester, Pa., APW at Albany, Brown Paper Mills, Kapuskasing, Glatfelter, Maine Seaboard, Southland, the first mill to make newsprint from southern pine; St. Joe, Gaylord Container, Atenque in Mexico—and, the latest, Maccon Kraft.

This month John Hardy and his staff were busy clearing up the final business of retirement and this may take several months. He will take down from the walls the degrees and honors, the photographs of Hardy Mills, and move them to Salisbury. With this gesture, certainly, closes a definite chapter in the history of the North American pulp and paper industry.



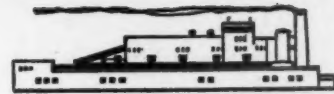
PULP DIVISION EXECUTIVES OF WEYERHAEUSER TIMBER CO. had several get-togethers early this summer on the West Coast, and this was an informal one at home of Russell J. LeRoux, Mill Mgr. at Everett, Wash. Bill Geiger, head of the sales office in Chicago was helping Mr. LeRoux take this picture. Left to right: Howard Morgan, Mgr., Pulp Division; Marvin Jones, Mgr., new Springfield, Ore., kraft mill; Harold Bialkowski, Research Director; Mrs. Robert (Judy) Nash; Mr. Nash, Chicago office; Mrs. R. J. (Mugs) LeRoux; Mrs. Howard (Dora) Morgan; Kave Larson, New York, Sales Mgr.; Dave Bigelow, Clinton, Mass., who represents the division in New England.

Moves to Vancouver, Wash.

The familiar Perfection Twine Co. plant, familiar sight for many years across the street from the Crown Z mill in Camas, Wash., has celebrated its 20th anniversary by moving 18 miles west to a new plant at Vancouver, Wash., and by adopting a new name, Portco Corp.

Newsprint Situation

Demand for newsprint continues, but there are indications that supply and demand are reaching a balance, according to Harold S. Foley, president of Powell River Co., Vancouver, B. C. The Powell River output has been at an all-time high this year.



process "know how" + unit operations = profitable pulp mill processing

Foster Wheeler designs and constructs special apparatus for pulp mills. Pulp mill processing makes use of one or more of the following basic engineering unit operations with which FW engineers have had unusual success over the years in numerous industrial applications:

Heating
Cooling
Condensing
Distillation
Evaporation

Tarpeening Recovery
Indirect Digest Heating
Digest Blow Heat Recovery
Tall Oil Processing

Foster Wheeler gives complete service—
from engineering to final construction.

For further information write:

FOSTER WHEELER CORPORATION
165 Broadway, New York 6, New York

FOSTER  WHEELER

PAPER OVER MILL'S NO. 4!

SUTHERLAND STARTUP

Thrilling a group of guests and mill spectators and a patient but weary machine crew, paper went over a new 136-inch trim, 8-cylinder Black Clawson paperboard machine for the first time at Sutherland Paper Co., Kalamazoo, Mich., at 11 a.m. July 19.

The eventual potential capacity for the machine is 200 tons a day. On the first day of operation, 87 tons were made and on the second, 112 tons were produced. This exceeded output of any Sutherland machine except No. 3.

It is housed in a modern 2-story high building with 190,000 ft. of floor space, including warehouse and room for another machine when, and if, desired.

Actually, the new machine will add about 100 tons daily to Sutherland's previous capacity of 400 tons, because plans called for dismantling and disposal of the old No. 2 machine in the Standard division, which has made 100 tons.



The new machine is No. 4 Standard division, of which Glen Sutton (left) is superintendent. This division makes various food carton and pail boards, chip boards, coated news and other specialties, and its total tonnage will be brought to about 325 tons. Box board is made on the single

machine in the Sutherland division, where Arnold Weller is superintendent.

A complete stock preparation system was installed in the Standard division as well as the new No. 4 machine, marking the first time Black Clawson Co.-Shartle Bros. has installed such an extensive system with machine included. It is one of the largest installations of the post-war era by the affiliated Hamilton and Middletown, Ohio, machinery builders. Tany Agronin (right) and William A. White, Jr., were the principal Shartle engineers assigned to the project.

Engineering, installation and layout were directed jointly by Al L. Sherwood, vice president in charge of engineering and Mr. Sutton.

Demand Keeps No. 2 Going

In spite of intentions to shut down No. 2 when the new machine got into produc-

tion, customer demand required its continued operation. It is still the intent of the management to shut it down as soon as demand permits. Continued operation required three new machine and beater room crews.

Packer screens ahead of the machine were made by Sandusky Foundry & Machine Co. Five Shartle Miami jordsans were installed. A Westinghouse 600 hp. steam turbine drive powers the new machine.

The complete stock preparation system includes four new Shartle-Dilts Hydrapulpers, one 20 ft. diameter, and three of 14 ft., and new Hydrafiners and Cycling chests.

The new machine and stock preparation system were major items in a \$4,000,000 expansion and modernization program at Sutherland which has now made that important board producer better equipped competitively in its field, with more flexibility and efficiency of operation.

A new converting plant was the first part of the program completed and it went into operation over a year ago. All new buildings utilize concrete brick and glass in construction and are fireproofed.

William Race, president of Sutherland, praised engineers, supervisors and Mr. Sutton and his start-up crew for "a job well done."

Mr. Race, chief quartermaster in the Navy during the war, succeeded L. W. Sutherland, long time mayor of Kalamazoo, as president in 1947, when the latter became chairman of the company. His son, L. W. Sutherland, Jr., is treasurer. Glen Graham is vice president in charge of operations, and Al Sherwood, vice president and engineering director. Harold Buttery is maintenance director and M. L. Fogarty, formerly with Bryant Paper Co., now St. Regis, is chief engineer.

Mr. Sutton expressed thanks to the management for "supporting my request 100% and for their cooperation in giving me all the help that was needed."

Now he is looking hopefully forward to a much-needed and well-earned rest!



WILLIAM RACE, who became President of Sutherland Paper Co., over two and half years ago at outset of modernization program.

PULP & PAPER Editor Writes Book on Columbia

Some TAPPI conventioners who this year will be seeing at least a part of the great Columbia River for the first time may be interested in the fact that an associate editor of **PULP & PAPER** Nard Jones in the New York office, has been commissioned by Rinehart & Co., New York, to write the volume on "The Columbia" in their "Rivers of America Series." The book will be published in 1952.

Mr. Jones, whose vocation is writing about the pulp and paper industry, writes about other things as a spare time hobby. He is the author of a Columbia River novel, still in print after nine years, called "Swift Flows the River," and—among several other books, a nonfiction book about Washington State called "Evergreen Land."

JAMES L. RITCHIE (left) whose appointment as Executive Director of U. S. Pulp Producers Assn., was previously announced. He is ex-WPB official and recently assistant to Ted Tinker in APPA. He succeeds O. M. Porter, now retired but continuing as USPPA Consultant.

DR. JAGDISH C. AGGARWALA (right), who went to U. of Washington, Seattle, and was well known of Washington, Seattle, and was well known among western technical men, is Chief Chemist and Development Officer for Shree Gopal Paper Mills in India.

FLORIDA OAK EXPERIMENTS

Establishment of a commercial value for scrub oak (*Quercus Laevis*, *Cinerea* and *Marilandica*) as a dual source of vegetable tannin and of short fiber paper pulp is the aim of research work at the University of Florida. This development could prove a boon to Southern timberland owners as this tree, found on poor type soil following logging of virgin timber, has been rated worthless.

While scrub oak is found everywhere in the South where Southern pine grows, it is estimated that in Florida alone it covers 5,000 to 8,000 square miles.

Practical research into pulping methods of scrub oak chips is being carried on at the University's Engineering Experiment Station under the direction of Prof. William J. Nolan, who designed a modern installation for this activity. The research was preceded by extensive work in the recovery of tannin and the preparation of wood and/or bark for such purpose.

Investigation into tannin production was initiated by H. N. Calderwood, research engineer, and William D. May, associate research engineer. They found that on the basis of 1945 a commercial sized scrub oak unit would have an output of 3200 pounds of dry bark (15% moisture content) per hour, and three such units on a 24-hour operation could supply an extract plant of 160 barrels (500 lbs./bbl.) liquid capacity daily. Such a plant would yield an income before taxes of 15%, providing wood could be sold at prevailing pulpwood prices.

This called for a process to use the 400 tons of oak wood chips produced.

The original study of scrub oak developed these facts:

NO. OF TREES PER CORD AND WEIGHT

Tree Species	<i>Q. laevis</i>	<i>Q. cinerea</i>	<i>Q. marilandica</i>
No. trees/cord..	35	37	22
Lbs./cord	4700	4770	4844
Avg. lbs./tree....	134	129	220
Avg. cu. ft./tree..	3.6	3.4	5.8
Diam. in. avg....	4.4	4.7	6.5
Height, ft. avg...	20.0	19.9	22.1

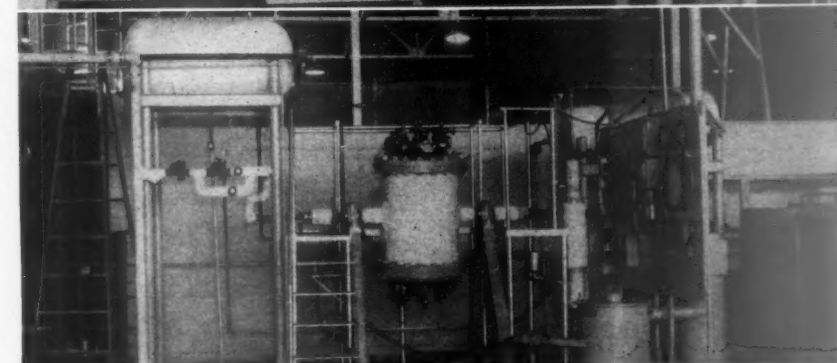
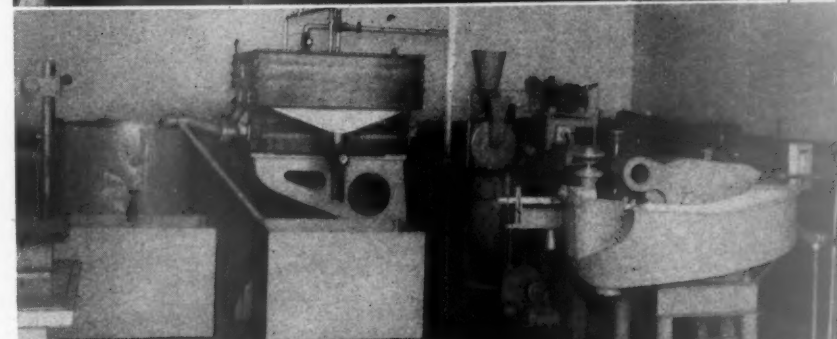
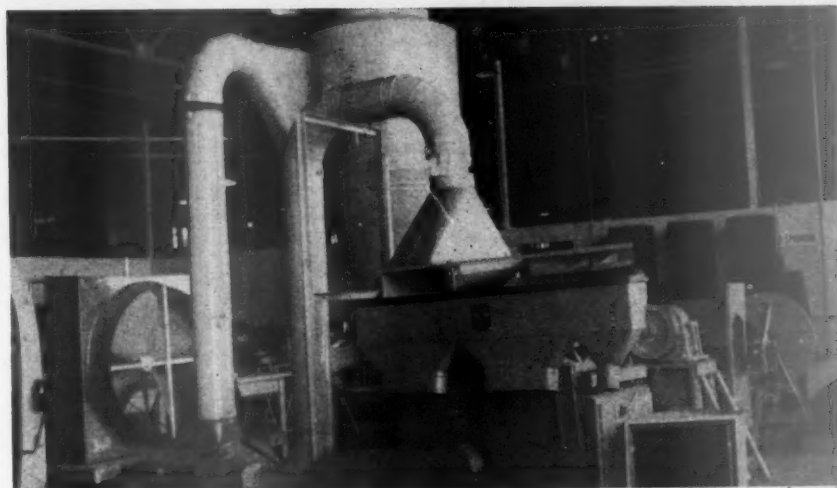
The scrub oak tannin is close to the chestnut type, which is becoming scarce. Eighty per cent of the vegetable tannins used in the U. S. during the war years were imported, around 200,000 long tons being brought in annually.

It has been estimated that existing scrub oak stumpage in the Southeastern states could yield six million tan units of extract per month for the next 20 years, or equal to the chestnut yield. Natural reforestation could extend that period. Florida alone could support three non-conflicting operations.

The University of Florida turned to

(Continued on page 132)

UNIV. OF FLORIDA RESEARCH STAFF—I. to r.: C. W. Rothrock, Jr. and George B. Hills, Jr., assistants; Prof. William J. Nolan (in charge); W. M. Ferguson, technician; R. L. Harvin, assistant research engineer; and J. G. Newcomer, technician.



EQUIPMENT USED at U. of Florida—Top: After chipping, the material passes to this (Sutton, Steele & Steele, Dallas, Tex.) bark and chip separator. Blower underneath forces air through a flat cloth onto which chips and bark feed and which floats the material. Lighter wood chips drop into chute at far left, mixed chips and bark into middle chute, and bark into chute at far right (nearest camera). Blower takes away dust. Middle: In right foreground is 10-lb. capacity Noble & Wood beater; back of it, Sprout-Waldron refiner, equipped with a power regulator. Four plate Valley flat screen is in center. Accepted stock goes into round container, rejects into box.

Below: Rotary digester has one center and six surrounding compartments, each of ½ cu. ft. capacity. Half of compartments receive chips at one end; discharge pulp from other. Other half are opposite to provide balanced instrument.





Welcome, **TAPPI!**

See us while you are in Portland

You have all heard about *ESCO* stainless steel equipment, conqueror of corrosion in pulp mills. Many of you have used it.

Now you are invited to see this equipment being made. See the induction furnace as it makes stainless steels for corrosion and heat resisting uses. Watch the metallurgical laboratory as it tests these steels. Talk to our engineers as they plan and design a variety of pulp mill equipment, including manganese steel log haul chain and chairs and conveyor chain and flights.

Our telephone number is AT 2141. Call us while you are in Portland, and it will be our pleasure to conduct you through our modern plant. We believe you will enjoy your visit—we know we shall. Electric Steel Foundry, 2166 N.W. 25th Avenue, Portland 10, Oregon. Offices in Eugene, Oregon; Chicago; Honolulu; Houston; Los Angeles; New York City; San Francisco; Seattle and Spokane. In Canada, *ESCO* Limited, Vancouver, B.C.

ESCO

Yes! Go West!


**Fall Meeting TAPPI
Portland, Oregon
September 11-15**

Stainless Steel Equipment for Better Pulp

PULP & PAPER

dyestuffs for paper

COVER PAPER
BOOK
BOND
LEDGER
INDEX
BRISTOL
BLOTTING
PATENT COATED
PARCHMENT
ONION SKIN
GLASSINE
TWISTING
TISSUE
MIMEOGRAPH
VULCANIZED FIBER
ABSORBENT
FACIAL
SUITBOX
BOXBOARD
TOWELING



specifically
standardized
for paper

plus

General's
technical
field service

and

quick color
matching
service

To insure prompt deliveries stocks of dyestuffs are carried in warehouses strategically located throughout the country.

*Color matches are mailed the same day as received . . . formulas sent by wire or telephone at your request.

GENERAL DYESTUFF CORPORATION

435 HUDSON STREET • NEW YORK 14, NEW YORK
BOSTON • CHARLOTTE • CHICAGO • PHILADELPHIA • PROVIDENCE • SAN FRANCISCO

Congratulations to

TAPPI

in choosing for this convention
an area which has rapidly
grown in importance in the
Pulp and Paper Industry.

We are pleased in having
contributed to this Industry's
growth by providing a depend-
able source of crude sulphur.

TEXAS GULF  SULPHUR CO.

75 East 45th St. New York 17, N.Y.

Mines: Newgulf & Moss Bluff, Texas

TAPPI PROGRAM

FALL MEETING — PORTLAND, ORE.

ALL EVENTS at Multnomah Hotel, Portland, Ore., unless otherwise noted. ALL BUSES for all trips leave from 4th St. Entrance of Multnomah.

» » PROGRAM IN BRIEF « «

SUN., SEPT. 11—Special Train Arrives. Registration.

MON., SEPT. 12

MEN'S WOODS TRIP

Ladies' Tea

TUES., SEPT. 13

MEN'S MILL VISITS

Ladies' Bridge Lunch

Golf Tournaments

WED., SEPT. 14—Peddlers' Breakfast.

Ladies' Mt. Hood Trip

Men's Luncheon

TECHNICAL SESSIONS

Evening Dancing

THURS., SEPT. 15—Ladies' Lunch

—Fashion Show

TECHNICAL SESSIONS

Banquet—Floor Show

Sunday, SEPT. 11—

5:00 p.m. (Portland daylight time)

Busses will be at the Union Depot to meet the special train. Baggage, tagged on the train, will be delivered to the hotels to which arriving guests are assigned.

Monday, SEPT. 12—

Woods Trip—7:30 a.m.

Busses will leave Multnomah Hotel for woods trip to Weyerhaeuser's Mt. St. Helen's Tree Farm. Transfer to special train to be provided by Weyerhaeuser Timber Co. will be made at Longview about 8:45 a.m.

4:30 p.m.—

Busses will load at Weyerhaeuser's log dump, returning to Portland via Longview Bridge through Rainier and St. Helens. Will reach Multnomah Hotel by 6:00 p.m. (Monday).

Tuesday, SEPT. 13—

Mill Visits—9 a.m.

Bus will leave Multnomah for Longview Fibre Co. and Pulp Div. Weyerhaeuser Timber Co., Longview.

9:15 a.m.

Bus will leave for Crown Zellerbach Corp. at Camas.

9:30 a.m.

Bus will leave for the Publishers' Paper Company at Oregon City and the Crown Zellerbach Corporation at West Linn.

All busses will return to the Multnomah Hotel at about 5:00 p.m.

Ladies' Golf—9 a.m.

Bus will leave for the Alderwood Golf Club.

Men's Golf—11 a.m.

Bus will leave for the Alderwood Golf Club. Return trips by these busses are planned for 3:30 p.m. and 5:30 p.m., to Multnomah Hotel.

WED. SEPT. 14—

8 a.m.—Breakfast—Grand Ballroom.

"In a TAPPI Tepee" — Original production staged by WR. 1 of Int. Brotherhood of Migratory Peddlers.

9:30 a.m.—Assembly Room

W. F. Holzer, presiding.

1. Welcoming Remarks.
2. President's Message—A. E. Bachmann.
3. Secretary's Message—R. G. Macdonald.
4. 1949 Shibley Award for Best Coast Paper by Young Mill Employees.
The Meaning of the Award—Wm. R. Barber, tech. director, Crown Zellerbach Corp. Paper to be given at sulfite session.
5. Status of Pacific Coast Pulp and Paper Indus-

try—Lawson Turcotte, exec. vice pres., Puget Sound Pulp and Timber Co.

6. Japanese TAPPI and Its Influence in the Japanese Pulp and Paper Industry—Harold Murdock, Roberts & Co. Associates, Atlanta, Ga. Formerly chief of Pulp and Paper Branch, Natural Resources Section, GHQ, Tokyo, Japan.

Luncheon—12:15 p.m.—Rose Bowl

R. J. LeRoux, presiding.

Speaker, Harold S. Foley, pres., Powell River Paper Co., chairman, Canadian Assn.

Technical Session 2:00 p.m.—Engineering Junior Ball Room

G. N. Pringle, presiding.

1. Corrosion—R. A. Huseby and M. A. Scheil, head of Metallurgical department, A. O. Smith Co., Milwaukee, Wis.
2. Hydraulic Barking Summary—Lee Hill, plant engineer, Pulp Div., Weyerhaeuser Timber Co., Everett, Wash.
3. Paper Mill Design and Construction—J. H. McCarthy, resident engineer, St. Regis Paper Co., Tacoma, Wash.

Fundamental Research — Marine Room—

J. L. McCarthy, presiding.

1. Opening Remarks by Chairman of Committee, H. F. Lewis, Institute of Paper Chemistry, Appleton, Wis.
2. Interim Report on Lignin Studies at the Univ. of Washington—J. L. McCarthy, Univ. of Washington, Seattle.
3. Commercial Method of Isolating Conifendrin from Waste Sulfite Liquor — Homer Lackey, W. W. Moyer, W. M. Hearon, Central Research and Technical Dept., Crown Zellerbach Corp., Camas, Wash.
4. Surface Area of Fibers as Measured by Air Permeability of Paper, J. C. Brown, Jr., Institute of Paper Chemistry, Appleton.
5. Recent Developments Relating to Fine Structures of Cellulose Fibers—O. Goldschmid, Research Dept., Rayonier, Inc., Shelton, Wash.
6. Microscopical Determination of Arrangement of the Cellulose Crystallites in Basswood—G. J. Ritter, Forest Products Laboratory, Forest Service, U. S. Dept. of Agriculture, Madison, Wis.

Sulfite Pulping — Assembly Room —

G. H. McGregor, presiding.

1. The Shibley Award Paper. Separation of Dirt from Unbleached Pulp by Centrifugal Type Classifiers — Vance Reynolds, Puget Sound Pulp & Timber Co., Bellingham, Wash.
2. Digester Linings for Soluable Base Sulfite Pulps—E. F. Tucker, Stebbins Engineering Corp., Watertown, N. Y.
3. Magnesia Base Sulfite Pulping, a Progress Report—R. E. Baker, Mill Mgr., Weyerhaeuser Timber Co., Longview, and L. S. Wilcoxson, vice president, Babcock & Wilcox, N. Y.
4. Certain Factors that Influence Delignification in Acid Sulfite Pulping—G. A. Richter, Wood Cellulose Development Dept., Eastman Kodak Co., Kodak Park, N. Y.

INFORMAL DANCING

9:00 p.m. — Rose Bowl

THURS., SEPT. 15

Technical Sessions—9:30 a.m.

Papermaking—Assembly Room:

A. E. Bachmann, presiding.

1. Beater and Headbox Additives — Jack E. Jayme, John C. Tongren and Donald T. Jackson, Hammermill Paper Co., Erie, Pa.
2. Effect of Phenolic Resins on Physical Properties of Kraft—P. K. Baird, R. J. Seidl, D. J. Fahey, U.S. Forest Products Lab., Madison, Wis.
3. Consumers' Ideas on Paper Quality — Frank H. Abbott, president, Sunset-McKee Co., San Francisco.
4. Developments for Fourdrinier Paper Machine —Lloyd Hornbostel, Beloit Iron Works, Beloit, Wis.
5. Open Forum Discussion of Quality Control—A. E. Bachmann, leader.

Pulpwoods Symposium—Marine Room:

H. F. Lewis, presiding.

Comparative studies of black spruce, loblolly pine, western hemlock, western red cedar and Douglas fir as pulpwoods.

1. Sources of West Coast Pulpwoods—J. M. McEwen, Research Dept., Pulp Div., Weyerhaeuser Timber Co., Longview.
2. Chemical Constituents of Woods—H. F. Lewis, Institute of Paper Chemistry, Appleton, Wis.
3. Pulping of Woods—K. G. Booth and W. F. Holzer, Central Research and Technical Dept., Crown Zellerbach Corp., Camas.
4. Specific Morphological, Chemical, and Physical Properties of Kraft Pulp Fibers—H. F. Lewis, Institute of Paper Chemistry, Appleton.
5. Comments on Springwood and Summerwood Fibers of Douglas Fir—W. F. Holzer and H. F. Lewis, Central Research and Technical Dept., Crown Zellerbach Corp., Camas, and Institute of Paper Chemistry, Appleton, respectively.

Alkaline Pulping—Blue Room:

H. C. Wall, presiding.

1. Sulfate Pulping of Logging and Sawmill Waste of Old Growth Douglas Fir and of Certain Associated Species—J. S. Martin, Forest Products Lab., Madison, Wis.
2. Centrifugal Clarification of Kraft White Liquor—A. E. Reed and W. F. Gillespie, Gaylord Container Corp., Bogalusa, La.
3. Relation of Kraft Pulp Quality to Wood Properties of Douglas Fir—R. N. Hammond and P. S. Billington, Research Dept., Pulp Div., Weyerhaeuser Timber Co., Longview, Wash.
4. Round Table Discussion on Bleaching of Kraft Pulp—J. V. Savage, Crown Zellerbach Corp., Camas, moderator.

Luncheon, 12:15 p.m.—Grand Ball Room:

A. E. Bachmann, presiding.

Management's Job is Selling—Alexander R. Heron, Vice Pres., Crown Zellerbach Corp., San Francisco.

GENERAL SESSION, 2:00 p.m.—

Assembly Room:

K. P. Geohagan, presiding.

1. Economic and Social Status of Pulp and Paper Industry—E. W. Tinker, executive secretary, APPA.
2. Position of Cellulose as a Chemical Raw Material—E. A. Tippetts, Rayon Division, E. I. duPont de Nemours & Co.
3. Trends of Research in Cellulose and Pulp Field—Emil Heuser, La Jolla, Calif.
4. Problem of Education in the Pulp and Paper Field—John G. Strange, secretary, Institute of Paper Chemistry, Appleton.

Cocktail Hour — Banquet

Cocktails

6:00 p.m.—Assembly Room

Banquet

7:00 p.m.—Grand Ball Room

Entertainment and dancing to 1:00 a.m.

LADIES' PROGRAM

MONDAY—SEPT. 12

Tea—4:00 p.m.—Marine Room

Honoring wives of national officers

TUESDAY—SEPT. 13

Trip to Alderwood Country Club
Golf. Lv. 9:00 a.m.—4th St. entrance of Multnomah Hotel. Ret. 3:30 p.m.

Bridge Luncheon—Assembly Room

12 noon to 4 p.m.

WEDNESDAY, SEPT. 14

Trip to Mt. Hood

Lv. 10:00 a.m. (promptly) 4th St. entrance of Multnomah Hotel

Luncheon—1 p.m.

Main Dining Room

Timberline Lodge—Mt. Hood

THURSDAY—SEPT. 15

Luncheon and Fashion Show

12-2:00 p.m.—Rose Bowl

The Program for Delegates At Sun Valley Resort

A full day—Sat., Sept. 10—at one of the West's most complete and beautiful resorts was set aside for convention delegates enroute to Portland from Chicago on the special Union Pacific train. The train was to leave Chicago, C 8 NW station, 3 p.m. Sept. 8.



A fitting introduction to "western atmosphere"—Sun Valley offered the party almost every type of recreation from horseback riding, tennis, trap and skeet shooting, archery, swimming in glass-enclosed pools, and golf to ski-lift rides. Clustered conveniently together in the center of a small valley among southern Idaho's ruggedly beautiful mountains are Sun Valleys group of inns and stores and theaters.

The special was due at Ketchum, Ida., at 7 a.m. (MST) Sept. 10, and busses were to transport delegates the mile and a half to Sun Valley.

Special plans were made for the sight-seeing chair lift ride up the slopes of Baldy Mountain to 3,200 feet above the valley floor for a view of the Sawtooth range.

Breakfast and luncheon were to be served at the Cafe Continental or in the Ram at Challenger Inn, and an outdoor barbecue dinner at Trail Creek Cabin three miles from Challenger Inn.

Points of Interest In "City of Roses"

Portland, the "City of Roses," has grown up on the east and west banks of the Willamette river during the past 100 years until it now approaches a population of a half-million people. The city's boundary extends nearly to the Columbia river on the north, is about 100 miles from the Pacific Ocean and 60 miles from Mount Hood to the east.

Portland has the largest fresh-water port on the Pacific Coast, is second only to Los Angeles in seaborne tonnage; and is the only point on the West Coast where trade to and from the land-locked states of the interior can move at water-level rates.

The city's exceptionally soft and pure water is renowned, the source being Bull Run River in the Cascade mountains.

Things to see and places to go:

For golfers there are 17 courses, 10 of which are public courses;

Jantzen Beach amusement park on the mighty Columbia river, and Oaks park on the Willamette;

International Rose Test Gardens at



ALBERT G. "BUFF" NATWICK (left) and RUSSELL J. LEROUX (right), Co-chairmen of the National Fall Meeting. Mr. Natwick is Asst. Res. Mgr., Crown Zellerbach Corp., Camas, and Mr. LeRoux is Mill Mgr., Pulp Div., Weyerhaeuser Timber Co., Everett, Wash. Both are former Wisconsinites, Mr. LeRoux having been with Consolidated and Mr. Natwick with Nekoosa-Edwards for many years.

Washington Park to see the famed roses and the city zoo also located here;

Panoramic views of the city and river and mountains and an unusual car ride at end of Council Crest streetcar line to Council Crest;

The Forestry Building, home of the Lewis & Clark Expedition in 1905, the largest log cabin in the world.

TEN-GALLON HATS—BUS BREAKDOWNS—A LECTURE ON STARS BY RAY SMYTHE—1934 MEMORIES!

Memories of that first national technical convention ever held in the West—also in Portland, Ore., and on Sept. 10-13, 1934—will be recalled by many in attendance there this month and by those at home who read about it.

CLARK C. HERITAGE (left), now head of Wood Products Development for Weyerhaeuser Timber Co., Longview, Wash., and technical director of Wood Conversion Co., Cloquet, Minn., was the president of TAPPI in '34. Then manager of the coating division of Oxford Paper Co., Rumford, Me., he returned to New England with a new ten-gallon Western hat which was full of memories of a most enjoyable and educational meeting. It was presented to him at the final banquet.

ROBERT H. HEUER (right), assistant superintendent, sulfite mill, Weyerhaeuser Timber Co., Longview, was the general chairman of the 1934 convention. Committee chairmen included Gob Des Marais, Ray Hatch, Buff Natwick, Ray Smythe, Fred Alsop, Walter Hodges, John Hasler, and the late G. Z. Brazeau (who was general chairman of the second national western convention—in Seattle in 1940—and the only other one in the West before this month's in Portland).



Roger Egan, now vice president of Buckley, Dunton Pulp Co., took movies of the woods trip and showed them at the banquet.

Just as they are doing this year again, the ladies—60 strong in 1934—took a bus trip to Mount Hood. The fun really began when the leading bus broke down. It refused to go and had to be pushed by the second bus. There was a sigh of relief when it got started down the hill, but around a curve, there it was stalled again, waiting for another push. Who led the laughter? Mrs. A. G. Natwick (wife of Crown Z's asst. res. mgr. at Camas), chairman of the ladies' committee, and it was her jolly personality which turned the breakdown into the success of the trip.

One of the highlights was Ray Smythe's "Business forecast based on Planetary Influences" before a joint men's and women's luncheon. With fake mustache, professional costume, slides showing relation of planets to business cycles, and Paul Bunyan's Blue Ox as his assistant, Mr. Smythe "opened up a field of speculation as to the cause of booms and depressions hitherto untouched upon."

The dry humor of Ralph Shaffer, then president of the former Shaffer Pulp Co., as banquet toastmaster, had them almost rolling under the tables and he had a difficult time finding golf and bridge winners. Incidentally, Tony Siebers, now paper superintendent at the new Weyerhaeuser Springfield, Ore., mill, won a lantern for having the highest golf score! Mrs. Fred Shanaman, among women, and Dan Robert, low gross, and Carl Gaiser, low net, were golf winners.

Dr. Harold Murdock, back in Portland again this time to tell of his experiences as MacArthur's chief of the pulp industry in Japan, received a ten gallon hat during the train trip from a Montana sheriff as "a key to the city"—but he had to return it for it was the only "key" the sheriff had.

The trip into the big timber provided by Weyerhaeuser; the special train from Chicago where life-long friendships were made; the old western stage coach that met the special train in Portland were never-to-be-forgotten events. And—something practically unheard of back in those days—the Crown Zellerbach Corp. actually opened up doors at Camas, and let the delegates tour that mill and actually see with their own eyes how they made pulp and paper! How times have changed! Jack Hanny, now vice president of operations, was manager, and his assistant, A. G. Natwick, was tour guide.

A GUIDE TO WESTERN MILLS

For Delegates and for Those Who Stayed Home

MILL VISITS — TUESDAY, SEPT. 13

- 9:00 a.m.—Bus will leave Multnomah hotel, Portland, for Longview Fibre Co. and the Pulp Division of Weyerhaeuser Timber Co. at Longview, Wash.
- 9:15 a.m.—Bus will leave Multnomah hotel, for Crown Zellerbach Corp. at Camas, Wash.
- 9:30 a.m.—Bus will leave Multnomah hotel for Publishers' Paper Co., at Oregon City and the Crown Zellerbach Corp. at West Linn, Ore.
- All buses will return to Multnomah hotel at about 5:00 p.m.

A highlight of the Portland convention will be the tours of some modern Far Western mills. Every mill from Ocean Falls, B. C., to Pomona, Calif., has notified **PULP & PAPER** that their doors will be open to guests from the convention. Here follows a summary of the points of interest in these mills. We have described more extensively the mills near Portland which have been selected for conducted tours on Tuesday, Sept. 13. Delegates are welcome

at the other mills, too, "on their own," and "what's what" at these mills is also briefly described.

CAMAS, WASH. DIVISION Of Crown Zellerbach Corp.

Seventeen miles from the Portland convention hotel, north across the Columbia, and then east up the north shore of the great river is this greatest of all Crown Zellerbach plants. Here is one of the most diversified and most highly integrated paper specialty operations in the world. It manufactures sulfite, kraft and ground-wood pulp—a 700-ton mill with 100% conversion of its pulp, giving employment to 2,400 earning \$6¼ million dollars annually.

To the technical delegates the Central Research and Technical Laboratory for all Crown operations will be of interest. W. R. Barber is technical director; W. W. Moyer is research director. Built new just before the war, it is already bursting

at the seams and a new laboratory is planned at Camas.

Until the recent expansion, it had a 16-grinder 55-ton groundwood mill, a 10-digester 340-ton sulfite mill, a 5-digester 185-ton kraft mill, and a 180-ton sulfite bleach plant. To this has been added another 5-digester 165-ton kraft mill with kraft bleach plant of 150 tons capacity.

In the paper mill there were 13 machines—eight Fourdriniers, two Yankees, two Harpers and a pulp drying machine—ranging in width from 188 and 176 inches down to 86 inches. Now there have been added a 100-inch Fourdrinier Yankee which has been making facial and other soft tissues since mid-December, 1946, and a 152-inch "all-purpose" Fourdrinier which makes a wide range from heavy board to lightweight specialties and started up April 18, 1948.

A spectacular double trolley traveling bridge crane handling two 14-ft. hydraulic grapples will be seen at the new wood preparation plant. Made by Berger Engineering in Seattle, it extends 70 ft. out over Camas Slough on a cantilever structure and can pick up to 60 tons of wood out of the water and lift it in one swoop to a 50-ft. high log deck in phenomenal speed.

Here, too, is an example of the famed Bellingham-type, versatile hydraulic barker which cradles and turns all sizes of logs on toothed wheels. Big chip storage silos will be seen, holding 400 units of chips each. Chip conveyors extending half a mile to the farthest terminal, the sulfite mill, are here.

A new type of Babcock & Wilcox rotating digester, time-cycle pressure control systems operated by a 4-hour clock and devised by the Camas staff, a unique Crown Z-type of consistency controller, the first Allis-Chalmers high density knotters, new Swenson-Nyman washers, the first 100-ton high density storage chests in the West—these are features to be seen in the new kraft mill.

Undoubtedly, a leading "showplace" of the Coast industry is the 150-ton eight-stage kraft bleach plant at Camas, 95 ft. high and with domed roof. This is a continuous type bleachery, with seven chemical and one soak stage, the most extensive ever built. It has an intricate list of schedules for varying treatments of different woods and for achieving different color, strength, etc., and automatic equipment for by-passing or routing pulp through the stages. The openness, without any pillars or vertical structures on the operating floor, and the bright visibility, will be noted. The bleach plant also has high density storage chests. There is also a new modern screen room ahead of it.

Other new equipment include a sextuple effect Swenson evaporator, B & W

"WESTERN - STYLE" HOSPITALITY GETS OFFICIAL OKAY

"Western-style" hospitality will be demonstrated for eastern delegates before, during and after the Portland convention. "The Open Door Policy" has long been in effect at Pacific Coast mills and without exception, every mill has announced to **PULP & PAPER** magazine that it will welcome visitors. Here are "sample" replies:

"You may be sure that any of the delegates will be welcome at the Crown Zellerbach Corp. mills."—Vice President A. H. Heron, Crown Zellerbach Corp., San Francisco.

"We heartily extend an invitation to any, and all."—Leo S. Burdon, vice president and general manager, Soundview Pulp Co., Everett, Wash.

"You can be assured the welcome mat will be out."—Carl E. Braun, vice president and mill manager Publishers Paper Co., Oregon City.

"We will be honored and delighted."—Howard Morgan, manager, Pulp Div., Weyerhaeuser Timber Co., Tacoma.

"Our company would certainly welcome the visit of any of the delegates."—Lawson Turcotte, executive vice president, Puget Sound Pulp & Timber Co., Bellingham, Wash.

"We will be glad to have the delegates visit any of our plants, but probably the one most easily accessible will be our converting plant in Portland."—Robert E. Bundy, general operating manager, Fibreboard Products, Inc., San Francisco.

"We will be glad to welcome any that wish to see our operation."—Anson B. Moody, vice president, Everett Pulp & Paper Co., Lowell, Wash.

"We would be very happy to open our doors."—Max Oberdorfer, president and general manager, St. Helens Pulp & Paper Co., St. Helens, Ore.

"It is the policy of both our companies to extend a welcome to visitors."—F. J. Herb, president, Pacific Coast Paper Mills of Washington, Bellingham, and brother of E. M. Herb, president of Westminster Paper Co., New Westminster, B. C.

"Our doors are open to anyone interested in improving their board mill system."—E. E. Flood, president, Pacific Paperboard Co., Longview, Wash.

"I will be glad to receive and show our plant to visitors, and our climate and other tourist attractions might justify a trip to Southern California."—Erik Fernstrom, president, Fernstrom Paper Mills, Inc., Pomona, Calif.

"We would be most happy to welcome any delegates at Powell River."—Harold S. Foley, Powell River Co., Vancouver, B. C.

"We will cordially welcome any visitors to one of the most modern kraft mills in North America."—J. Petrie, manager, Pulp Div., Bloedel, Stewart & Welch Ltd., Port Alberni, B. C.

"Members will be welcome at Ocean Falls and Vancouver plants."—P. E. Cooper, president, Pacific Mills Ltd., Vancouver, B. C.

"We would be very happy to allow visitors through our mill."—J. A. Craig, general manager, Sidney Roofing & Paper Co. Ltd., Victoria, B. C.

Others who did not respond by letter, issued orally just as cordial a welcome as any of the above.

As customary, mills would appreciate advance notice of a visit so the best possible arrangements can be made.

recovery unit, Cottrell precipitator, Dorr chemical plant, rotary type Allis-Chalmers lime kiln and Fuller "Airveyors" for handling bulk lime and salt cake from railroad cars to the top of high plants by vacuum.

Ahead of the new No. 15 Beloit "all-purpose" Fourdrinier paper machine are batteries of five Morden Stock Makers and four E. D. Jones Majestic jordsans. The machine, with speed range from 150 to 1700 ft. per minute, makes products from heavy board to lightweight kraft. It is tile lined and nowhere does metal touch stock. The wire is 152 inches by 105 ft. There are two suction presses and one smoothing press and 44 paper dryers. A Cameron winder with speeds up to 4,000 fpm. follows it. A pneumatic sample conveyor takes samples across r.r. tracks to a consistency humidity controlled testing station. It is the first Fourdrinier to make bottle stock for Crown Z.

No. 14 machine is making the first facial tissue made in the west. This is a Beloit machine, with 100-inch wire and speeds up to 1700 fpm. It has a 12-ft. dryer and an elaborate dust collector system for the room was engineered by Drew Engineering Co. of Portland.

Conversion and finishing have become much more important at Camas, as integration has been extended. A Dilts waxing machine which runs a 50-inch roll with Cameron constant tension at 1,000 fpm.; lunch roll winders which are completely automatic; an amazingly intricate facial folding machine with three decks of parent rolls are among interesting machines to be seen.

Frank A. Drumb is resident manager and Albert G. Natwick and George W. Charters are assistant resident managers.

HISTORY OF THE TWIN PAPER MILL CITIES

Twin cities of Oregon City and West Linn, on the east and west sides, respectively, of the rich and fruitful Willamette Valley, 13 miles south of Portland, provide one of the "meccas" of Portland convention mill tours.

On the Oregon City side, in 1866, W. W. Buck, a mechanic from Ohio, pioneered the first Pacific Northwest paper mill, using old paper, straw, salmon nets and ship sails and rope. A small mill had started up ten years before in Marin County, California, which was the first in the west.

On the West Linn side, the first Coast mill to make paper out of wood was the Willamette Paper Co., built in 1889. Also on the west side and in the same year, Crown Paper Co. of San Francisco started a \$200,000 mill to make paper from straw, which eventually became today's big Crown Z book paper mill.

The Willamette Falls made this site a desirable one for industry and Willamette Falls was the early name of Oregon City. The early name of West Linn was Linn City. Many early pioneers described this location as the "Eden" of the Oregon country, and Dr. John McLoughlin, the autocratic Canadian ruler of Hudson's Bay Co.'s Columbia division, richest of its far-flung empire holdings, selected this spot, on the east bank, for his own "dream home" in 1829 and he lived there after he became an American.

He established a party there in '29 to build a sawmill but Indians interfered and the doctor delayed developing his claims. Americans coveted this rich site and claim jumpers had a sawmill running there in 1842. By 1844 Oregon City was platted and held its first election. In 1846, the first newspaper west of the Rocky Mountains was published here, on what is now the site of the Publishers' Paper Company, and later the Portland Oregonian was founded by H. L. Pittock, and these papers stimulated the building of paper mills here and at Camas, the first mill in Washington territory (built in 1884). Pittock was one of the builders of these mills. He first took over Buck's pioneer Oregon City mill and moved it two miles northeast where it became the historic Park Place mill in 1870 and was operated by John Lewthwaite, whose descendants are still active in the industry.

Linn City was founded by Robert Moore in 1840, but for years he stubbornly refused to sell water power, so the paper mills were not built on that side until 1889, as stated above.

Dr. McLoughlin, known as the "White-headed Eagle" to the Indians, resigned his \$12,000 a year job with Hudson's Bay Co., took out American citizenship papers and was elected Oregon City mayor in 1851. He and Moore, founders of the twin cities, both died in 1857. The McLoughlin House, moved from the riverside, still stands at 7th and Center st., Oregon City.

The late W. P. Hawley of Oregon City, became resident manager of the Crown mill at West Linn—the one built in '89—when it became Crown Columbia in 1905 in the first of a series of mergers between San Francisco and Portland-Camas industrialists which led finally to Crown Zellerbach Corp. But Mr. Hawley crossed to the east bank in 1908 to build his own mill, the Hawley Pulp & Paper Co., which a year ago became Publishers Paper Co., with a Coast newspaper group as principal owners.

HISTORY OF CAMAS

In 1883 Camas was the site of the first paper mill in Washington state. In that year Publisher Henry L. Pittock of the Portland Oregonian and associates, purchased 2,600 acres and built a small mill at what is now Camas—then known as La Camas Colony.

Formerly a newsprint mill the Crown Zellerbach Corp. mill at Camas now makes almost everything except newsprint. Since 1883 organization and ownership of the operations have changed several times. Originally the Columbia River Paper Co., it became Crown Columbia Paper Co., then Crown Willamette Paper Co., and finally, Crown Zellerbach Corp.

The beginning of this industry can be traced even further back at Camas, however. A sawmill was built here in 1846 by Col. Michael T. Simmons. And the first American pioneer child in what is now Washington state was Christopher Columbus Simmons, son of Colonel Simmons, born at Washougal-Camas in 1844.

The name Camas, incidentally, has evolved from the original Indian name of an edible lily, the "Kamass." French trappers at the Vancouver trading post called this La Camas when referring to this riverside location. And this was Anglicized to Camas which is today synonymous with quality paper making.



WALTER F. HOLZER, Crown Z. Camas, Coast Section Chairman and Portland Technical Program Chairman. One of the finest technical programs ever given is arranged.

WEST LINN, ORE., DIVISION Of Crown Zellerbach Corp.

Here on the west side of the Willamette River and just 13 miles south of Portland, is the first mill west of Wisconsin and Texas to make on-the-machine coated paper. A quality groundwood-bleached sulfite-coated paper has met with much favor. Pulp furnish is made from white fir, western hemlock and Sitka spruce.

One of the historic mills of the Far West, with a history going back 60 years, West Linn now has ten Fourdrinier pa-

per machines; with listed capacities of 220 tons coated book paper; 115 tons news; 165 tons of groundwood specialties, toweling and miscellaneous printing and wrapping paper. It makes sulfite and groundwood pulp. It has a new 75-ton bleach plant. West Linn now gives employment to over 1,000 persons.

The new 165-inch wide Beloit machine, No. 6, with speed range of up to 1500 feet per minute—makes coated paper for Life and Time, printed for western circulations in a new big Los Angeles printing plant from whole pages teletyped instantaneously from New York, thus permitting delivery of those issues on the same day in the west as in the east. Number 6 started up in July, 1947.

The rebuilt 155-inch wide Beloit machine, No. 5, makes coated paper for magazines and job printing. It started up in November, 1947.

These two machines are of the latest design in their type, almost identical. The patented Consolidated Water Power & Paper Co. coating process is used under license and is installed between two sections of dryers.

Full-machine width rolls are supercalendered on three high-speed Beloit open-side supercalender stacks in a separate large finishing building. A 157-inch Cameron rewinder is in line with each supercalender.

A modern clay mixing plant and new vacuum clay handling equipment is a feature. About 18,000 tons of powder clay from Georgia is used each year. With the use of clay, there is a one-third saving in wood.

Two separate pulp handling systems are now in the groundwood mill, one for book grade pulp; one for news grade. Interesting to see here are six new General Electric 2,300-hp. motors for grinders, the first of their type ever built to withstand submersion in flood waters. They are completely sealed in specially fabricated steel covers during flooding of the Willamette River—so many years a bugaboo at West Linn. Air pressure through special silica gel air dryers overcomes air pressure of water. They can be used as generators during high water. Last year these motors were submerged 48 hours during a flood.

DuPont three-dimension vision colors for safety and improved working conditions is another West Linn feature. And no doubt visitors will see the large attractive glazed tile locker and shower rooms for employees.

Peter T. Sinclair is resident manager at West Linn. Raymond A. Dupuis is the assistant manager.

WEYERHAEUSER TIMBER CO., Longview, Wash.

One of the most complete and varied wood utilization centers in the world are the Weyerhaeuser operations here in Longview, spread over 600 acres, where the broad Columbia takes its last big bend and flows west to the ocean. Time will only allow the delegates a brief glimpse of most of these closely integrated operations—three big sawmills; a plywood plant; a bark products plant; two big log and one small wood hydraulic barking plants; a forest products development laboratory; a pulp research laboratory, the sulfite pulp mill, the new kraft pulp mill, and the new and unique full scale magnesia base process recovery and power plant, where heat and chemicals are recovered.

Of course, the last two or three of these divisions are where the delegates undoubtedly will spend most of their time. If they could all go up in an airplane and look down on this array of industrial establishments they would have a picture before them that is one of the most rare and most significant in industry anywhere. Pulp molding powder and other bark products have already been established commercially as a result of research here.

Ten years of research and experiment went into the MgO plant which recovers heat and chemicals from the sulfite operations where magnesium oxide has replaced calcium oxide as cooking base. There is a closely grouped series of white concrete and steel buildings and towers such as no one has ever seen before in the pulp industry, connected by a maze of stainless steel tubing and featuring elaborate automatic machinery of new invention.

George H. Tomlinson, vice president of Howard Smith Paper Mills of Quebec, discovered the unique feature of the MgO system, in that when the liquor is burned, SO_2 is liberated and an ash can be produced containing highly reactive MgO free from magnesium sulfide. Pilot plants using MgO base sulfite acid were operated by Mr. Tomlinson at Cornwall, Ont., and by Weyerhaeuser at Longview, under R. S. Hatch. Babcock & Wilcox Co. entered into research in development of equipment and, eventually, these three companies agreed to combine their efforts toward a solution of the problem. Otto C. Schoenwerk of Chicago, designed this first commercial plant at Longview in its entirety.

The MgO Plant

The MgO plant consists of seven stages as a process:

1. Dumping and washing. Digesters are dumped instead of being blown and effluent carries 12 to 14% solids after separation of pulp. The four huge 70-ft. long horizontal steel dump tanks, Stebbins-brick lined, are unique and look like digesters. From these tanks contents pass through Jonsson knotters and Oliver washers with steel footboxes. Dumping called for special changes in digester circulation ahead of it, equipment provided by Electric Steel Foundry. Also, addition of a digester because of longer blowdown.

2. Evaporation. Standard evaporators

for the new kraft mill are on one side of this building and on the other, a new and distinctly different General American submerged tube type for the sulfite liquor. These are completely equipped with stainless steel. Effluent from these consists of 50 to 55% solids.

3. Burning. Here, again, the B & W recovery furnaces and boilers for MgO and kraft are side by side and present curious contrasts. The kraft boiler room is 90 ft. high, with a rated 220-ton unit and with seven floors of access. The two sulfite recovery boilers are half as high, with three floors, each rated as 137½-ton units, and have gas-air heaters rather than economizers, and have relatively high steam production. Cascade evaporators of stainless steel follow them. Further concentrated liquor is passed to burners which can either fire black liquor or oil. The combined kraft-sulfite plant produces steam for two 6,250 kva turbo-generators where power is created for the two pulp mills.

4. Separation. Burned MgO is collected in multiclones over the furnaces, and conveyed to absorption powers by Edler conveyor, in which collected dust travels in bulk down a tube. Separated sulfur dioxide is carried off in flue gas.

5. Cooling. The SO_2 gas must be cooled and this is done in all-steel cooling towers lined by Stebbins with 12 sections of Electric Steel Foundry heat exchangers alongside which cool with water. Water flows countercurrent to gases.

6. Absorption. SO_2 gas is absorbed in six concrete Stebbins-lined absorption towers in which neutral magnesium bisulfite is prepared. The MgO dust from the Redler conveyors is redissolved in water and fed down from the top of absorption towers countercurrent to the SO_2 gas going up. Gases removed from SO_2 are discharged in the air.

7. An independent 3-stage Jenssen acid fortification system builds up free sulfur dioxide to a point where there is a suitable combination of magnesium bisulfite and free sulfuric acid to return to the sulfite mill's hot acid system for use in digesters. Steps here are from sulfur burner to gas cooler to Jenssen absorption tower.

New Kraft Mill

The new kraft market pulp mill has been made possible as a result of Weyerhaeuser's "whole timber crop use" policy and application of hydraulic barking in the sawmill operations resulting in a large volume of quality leftover wood clean of dirt. Douglas fir slabs and small wood from pre-logging are used to a great extent, from the Mount St. Helens Tree Farm which delegates were to tour.

As in the 275-ton bleached sulfite pulp mill, a Rice Barton Minton dryer is also the major equipment in the new 200-ton kraft mill. This one is a 150-in. wide, 250 ft. per minute vacuum dryer with removable Fourdrinier ahead of it. There is extensive instrumentation in the new kraft mill. Four carloads of fabricated stainless steel and large amounts of stainless valves and fittings are used.

Robertson protected metal covers the long lines of chip conveyors from the

big hydraulic barkers as well as the small one. Four new 60-ft high chip silos hold four days' supply for the kraft mill.

Combustion Engineering made five new welded 40-ft. high kraft digesters. Bird Jonsson knotters, Bauer Refiners and Oliver washers, Impco bronze chromium plate flat screens and Valley Iron deckers are in the system after cooking.

A six-stage batch bleach plant is an interesting new installation for the kraft mill. Much of the equipment, including 17 bleachers, and reducers galore, was manufactured in Seattle at Western Gear Works, and Jas. Brinkley Co. cooperated in engineering and supply.

Howard Morgan, with offices in Tacoma, is manager of the Pulp Division of Weyerhaeuser. Ray Baker is the resident manager of the pulp operations in Longview. Dr. Harold Bialkowsky is Pulp Division research director, also in Longview. Others at Longview include William H. Haverman, sulfite supt.; Gerald F. Alcorn, kraft supt.; Thomas W. Stewart, combined power and recovery supt.; Svarre Hazelquist, technical director, and Don Felt-hous, plant engineer.

LONGVIEW FIBRE CO. Longview, Wash.

One of the modern and most important kraft board and paper mills of the continent, Longview Fibre Co., is on the list of mills scheduled for delegates' tours. Starting up in 1927, this was a pioneer enterprise in Far West utilization of lumber mill "left-overs," a trend which 22 years later has become one of the most important in the industry in conservation of resources and integration of forest operations.

The late M. A. Wertheimer, former president of Thilmany Pulp & Paper Co., Kaukauna, Wis., visualized possibilities of using wood from the Long-Bell Lumber Co. in Longview, one of the biggest sawmills in the world, for kraft products. Charles R. Seaborne, then chief engineer and now vice president in charge of manufacturing at Thilmany, was "loaned" to the new company to direct construction.

Longview Fibre now has five paper machines, with output of 450 to 500 tons daily; groundwood and kraft mills, and extensive converting operations, including three corrugators, 28 bag machines, creping, toweling, waxing and asphalt laminating equipment.

A modernized boiler plant is brand new. It has a combination hogged fuel-fuel oil B. & W. boiler, capacity 150,000 lbs. of 900 lb.-175 degree F. steam per hour, and a second boiler of similar size for oil only. Also, there is a new Combustion Engineering recovery unit and two new G.E. turbo-generators. This makes Longview Fibre one of the few completely self-contained mills in the country for power and steam.

Other attractions to see are wood handling and preparation systems, farmer-type 8-ft. wood from 50 miles around, is unloaded from truck onto a conveyor controlled by the truck driver. A Hammermill crane, on 800-ft. runway, handling a cord at a time, removes wood after it passes through, and is straightened by, a

"jogger." The same section of conveyor can receive wood from storage en route to process. The crane operator controls both jogger and conveyors.

He also operates a slasher reducing wood to 4-ft. lengths, which fall into an oval-shaped pond where movement of wood by water is ingeniously achieved. The pond has a midfeather which holds about 100 cords. Four ship propellers circulate water in the pond, bringing wood to an inclined jack chain which carries it to the wood room. The chain alternately handles large hemlock logs from the Columbia River or the small wood from the pond.

Hydraulic barking of 8-ft. slabs at the rate of 10 cords an hour will be seen here. A new barking drum is being installed.

Steamed Douglas fir sawmill waste is used in the 120-ton groundwood plant for .009 and liner filler. The latest machine, a Beloit 200-inch Fourdrinier, was installed in 1940.

H. L. Wollenberg, president, has offices in San Francisco. Robert S. Wertheimer is vice president and resident manager; Carl Fahlstrom is assistant resident manager; W. J. Shelton is superintendent of pulp and paper manufacturing, and R. P. Wollenberg is chief of the engineering division.

PUBLISHERS' PAPER CO., Oregon City, Ore.

Last year this mill which has paper producing capacity of about 275 tons on four machines and pulp capacity of 120 tons of unbleached sulfite and over 250 tons of groundwood was purchased by a group headed by Los Angeles and Salt Lake City newspaper publishers. The name Hawley Pulp & Paper Co., which it had borne since being founded in 1908 by the late W. P. Hawley, Sr., was changed to Publishers' Paper Co.

The largest machine, a 234-inch Beloit, is entirely on news, but the other three, a 114-in. Pusey & Jones and 134 and 116-in. Belois, make both sulfite colored wrap, other special wrapping, tissue and toilet and paper specialties as well as news.

Visitors will be interested in seeing the hydraulic barker, one of the most commodious of new wood rooms in the West, new chipping plant, chip transportation system and chip storage silo.

Also, there is a new combination hogged fuel and oil burning Springfield boiler of 80,000 lbs. per hour, now building, introducing an eastern type of equipment here and indicating the need for other sources of power besides waste wood in the West, since so much of that wood is now being saved for products.

This mill has six digesters for sulfite and 37 grinders of both hydro and electric type in groundwood plant. Construction of plant facilities below the high cliffs of Oregon City close to waterside and just below Willamette Falls is interesting.

Big logs are lifted by an electric motor-driven four cable hoist to an open main deck of the barker plant, high above the river at the upstream side of the building.

A lathe-type hydraulic barker with suspended overhead nozzle with water pressure over 2,000 psi. debarks logs up

to 22 feet long and 52 inches in diameter. This was supplied by Sumner Iron Works of Everett, Wash. The equivalent of 40 cords of wood an hour can be barked (20,000 ft. log scale) and a unique feature here is a twin steam barker drive engine which works with two Airflex clutches, permitting transfer of power to a 7½ hp motor which rapidly returns the nozzle to starting position, giving flexible speed control and quick starting and acceleration.

Two years ago, a new 110-inch 6-knife Sumner chipper was added, and a 88-in. chipper installed. Logs up to 22 inches diameter go to this chipper, while those larger are broken down for groundwood. All new belt and log conveying and chip conveying equipment is of recent design.

A reinforced concrete chip silo is 70 ft. high and of 40 ft. diameter, and has a steel cone inner bottom where chips are withdrawn by a rotating horizontal feeder disc and pass over a Merrick Weightometer on way to digesters.

This mill has prepared an attractive new descriptive folder for visitors. They will be greeted here by Carl E. Braun, vice president and mill manager since 1932, who is widely known and also Sam Robinson, general manager, a new addition to the organization.

James A. Wilson is assistant mill manager and Austin Nickels is general mill superintendent.

EAST-OF-PUGET SOUND MILLS

SOUNDVIEW PULP CO., at Everett, Wash., is the largest sulfite mill in the world, with capacity for over 600 tons daily of bleached pulp, mostly quality paper pulp but also including some quantities of purified pulps for specialties. Most recent innovation here is the Rosenblad recovery system for recovery of about 950 lbs. of steam and 40 lbs. of sulfur dioxide from blowpit gases, which thus eliminates objectionable atmospheric conditions. American Heat Reclaiming Corp. designed major equipment for this process and about 65,000 lbs. of high quality stainless steel was used, much of it supplied by Electric Steel Foundry of Portland and fabricated by Puget Sound Sheet Metal Works of Seattle. This is the first installation of this kind in the U. S. and largest in the world.

One of the first and one of the biggest hydraulic log barking plants is here. An adjustable ring-type barker with numerous nozzles in movable segments, through which the logs up to 60 inches diameter can pass end to end, is the big one. Also there are three small wood or slab wood hydraulic barkers of different types. An 150-inch chipper is in the big plant. Wood savings of about 20% are achieved and for this big mill this approaches a saving of 40 million ft., or 80,000 cords a year. New type concrete chip silos; modern bleach plant, 12-20 ton Stebbins lined digesters and four 154-in. pulp dryers are other major equipment. U. M. Dickey is president. Leo S. Burdon, vice president and general manager. They extend a hearty welcome. N. W. Coster, general superintendent, and John Carlson, assistant general supt., will be on hand.

WEYERHAEUSER TIMBER CO.'s sulfite pulp mill at Everett is also on Everett's harbor about 220 miles from Portland and is famed for its pioneer hydraulic log barker, the "Weyerhaeuser type" barker. It handles big logs which are held in steel arms during the operation, with two weighted chains holding down the log and "indexing" it, or turning it in steps, as two nozzles, each with flow of 500 gpm., move from one end to the other, directing a cutting stream from below. (Weyerhaeuser's big barkers at Longview are similar except that the log is turned continuously instead of being indexed, and a greater velocity shotgun cylinder feed is used instead of steam engine on the nozzle carriage.) The Everett mill has a rather new three-stage bleach plant, with one continuous chlorination and two batch caustic and hypochlorite stages. The 150-in. Minton pulp dryer has 42 dryers. Stock tanks are generally of wood stave; bronze chrome flat screens and riffles are used and an unbleached Oliver washer, and with two three pulp bleaching and an Oliver washer in bleachery. Capacity is about 300 tons daily of bleached sulfite pulp. Russell J. LeRoux is mill manager, Ray Johnson, superintendent.

EVERETT PULP & PAPER CO., at Lowell, on Everett's eastern outskirts, is the only soda process wood pulp and paper mill in the West. On three Pusey & Jones (one combined P & J-Beloit) machines, it makes over 50 tons of book paper and 30 tons of writing, tablet, mimeograph and other grades. There are 11 soda digesters of 3610 lbs. capacity each. Considerable new work has been done at this mill, including installation of a Babcock & Wilcox black liquor burning recovery unit, new Oliver washing equipment, enlargement of blow pits, a Cottrell precipitator and slaker and caustic equipment. Interesting here is the new pioneering use of veneer chips from veneer operations. This mill is a big user of western cottonwood, similar to eastern poplar. Just next door is the Sumner Iron Works, long a big equipment supplier for western forest industries. W. J. Pilz is president and Anson B. Moody is vice president of Everett Pulp & Paper. L. P. Fortier is general superintendent, and Radford Russell is assistant.

WEST TACOMA NEWSPRINT CO., 15 miles south of the heart of Tacoma and 1¼ miles north of Steilacoom, is the first mill on east Puget Sound when going north from Portland. Cellulose Engineers, Inc., of Seattle revamped this mill—a long idle magazine paper mill—after it was purchased from Everett Pulp & Paper Co. by a group of 14 Pacific Coast newspapers, led by the Tacoma News-Tribune. They make 44 tons of groundwood and 60 tons of newsprint daily, buying required sulfite. Interesting equipment here is an attrition-type of mechanical barker in which logs up to 36-in. diameter are barked by rubbing together in equipment developed by Waterous of Canada and Price Bros. product of salvage logging. A rebuilt Pusey & Jones Fourdrinier and four

Sandy Hill pocket grinders are major equipment. Neil Robertson is mill manager and William J. Edwards, superintendent.

ST. REGIS PAPER CO., Tacoma. One of the most recent important developments in the West is the addition of a modern stream-lined kraft paper mill, notable for its straight-line operation through a 600-ft. room, its visibility around equipment and roominess, and its 180-inch Pusey & Jones Fourdrinier designed for 2,100 fpm., which started up Jan. 5. A new design closed pressure inlet, individual GE electronic amplitudyne speed regulation on each section with speed up to 4,400 fpm. on winder, a filtered air electric room, the first broke Hydrapulper in the west, color coding of all piping and conduit, extensive use of stainless steel, one of the first Hercules automatic emulsifying processes, use of reinforced concrete instead of structural steel from basement to work floor with steel above and welded steel trusses, continuous glass window panels with stainless fittings instead of sash—these are just some of the new features. A six-digester pulp mill with two Swedish dryers, a bleach plant and a new wood preparation plant are other major units. Usually, about half of 300 tons of kraft pulp made here is bleached and marketed and about half made into paper. The barking plant is one of the most diversified, with a Worthington ring-type hydraulic bark-er for logs up to 5-ft. diameter, a Sumner slab bark-er, a new type Fibre Making Processes drum bark-er for 4-ft. round wood, and a 153-inch Sumner chipper and two smaller ones. Walter DeLong is vice president and manager, Justin H. McCarthy is chief engineer and he was previously in charge at Soundview when it built its barking plant and other recent additions. John A. McDermott, formerly of Oswego, N. Y., is paper superintendent, and H. C. McCorry is pulp superintendent.

FIBREBOARD PRODUCTS INC. has a paper mill at Sumner, between Tacoma and Seattle, with an 84-inch cylinder machine. It makes chip, jute liner, folding and set-up board, etc., up to 75 tons a day. Leonard O. Fox is resident manager.

COOS BAY PULP CORP. at Anacortes, Wash., is subsidiary of Scott Paper Co., is between Everett and Bellingham. This mill produces unbleached sulfite pulp for Scott's eastern tissue operations, averaging 90 tons a day. Major equipment includes two 17½-ton digesters, two chippers and two shredded pulp dryers. C. Wylie Smith, vice president and general manager of Coos Bay Pulp Corp., makes his headquarters at Empire, Ore., but is frequently here. Jesse R. Lewis is acting resident manager.

PUGET SOUND PULP & TIMBER CO., Bellingham, reputedly the largest unbleached sulfite pulp mill in the world, is distinguished as one of the most progressive, also. There have been many new developments here which are examples of advanced engineering. The mill

has rated capacity of 370 tons per day with three Swedish Flakt dryers of 127-in. width each. There are six 9600-cu.-ft. digesters. Recent modernization which is aimed at making the plant more flexible includes addition of 24 Impco flat screens, with 12 old ones converted to knotters; four Impco deckers; two Stebbins lined chests for brown stock and white water; a new B & W two-drum 140,000-lb. boiler, and increased warehouse space.

Four years ago this mill added a modern alcohol plant using sulfite liquor for raw material, with capacity for 6,000 gallons of ethanol from 600,000 gallons of effluent. This was a \$1,000,000 brick and concrete plant with liquor collection, preparation, fermentation and distillation equipment, so completely automatic that only a few technicians are needed for the entire operation. In a liquor stripper, sulfur is recovered for re-use in the mill. This mill more recently added a small plant for production of a plastic binder product known as Lignosite, also made from mill effluent. Another addition is a paperboard plant with 40 tons daily capacity.

The "Bellingham type" hydraulic log bark-er is famous as a refinement of this most important engineering development in the western industry and a tribute to this machine developed by Puget Sound Pulp & Timber Co. is that it is being duplicated in several other large mills, with Sumner Iron Works an manufacturer by agreement with Puget Sound Pulp. For versatility and simplicity, this bark-er is outstanding. Logs ranging from 8 to 26-ft. length and 3-in. to 7-ft. diameter, can be turned while cradled on a series of toothed wheels on two shafts at speeds from 30 to 300 fpm. An ingenious arrangement of multiple lengths of hose and flexible couplings for the overhead nozzle protects it from damage while permitting it to ride its carriage close to any diameter log. Water pressure is 1300 psi. Harmonized architecture of concrete and steel and brick, elaborate push-button controls, modern all-steel log haul and heavy-duty conveying and handling equipment and a big 175-inch Sumner chipper are other important features. Fred G. Stevenot, in San Francisco, is president. In Bellingham are Lawson Turcotte, executive vice president; Ralph M. Roberg, vice president in charge of sales, and Erik Ekholm, general superintendent.

PACIFIC COAST PAPER MILLS OF WASHINGTON, at Bellingham, has increased capacity and improved quality of its tissue products with changeover and rebuilding from two-cylinder machines to two Fourdrinier machines in recent years. The No. 2 85-inch machine, most recent new one, makes an MD tissue of facial quality but single ply. Monel is used throughout and it has a Black-Clawson Fourdrinier, Valley headbox and Beloit Yankee dryer—all new. Capacity is increased from 23 to 30-32 tons daily. This mill put in the first Dilts Hydrapulper in the West and has added another. J. J. Herb, formerly of Thilmany in Wisconsin, built this mill and Westminster Paper

Mills in New Westminster, B. C. His sons, F. J. (Bill) Herb, here and E. M., at New Westminster, are presidents of the two firms. Peter J. Onkels is Bellingham mill manager. Unbleached sulfite is purchased next door at Puget Sound Pulp.

INLAND EMPIRE PAPER CO., across the Cascades, at Millwood, a Spokane suburb, was started in 1910 by Wisconsin paper industry interests and makes newsprint, high grade news, bond, envelope and wrapping on three Fourdriniers with 115 tons daily capacity. It makes 85 tons of groundwood with 15 grinders and 38 tons of sulfite, with two digesters, and can bleach 18 tons a day. New Downington suction and suction press on No. 3 and new Cameron winder on No. 4 and extensive new wood room with a Worthington wheel-type hydraulic bark-er are recent additions. Small logs up to 20 inches diameter can be barked and chipped log length. Formerly, only 2-ft. wood could be handled. A. W. Witherspoon is president, C. A. Buckland, general manager, and Myron Black, mill manager.

OLYMPIC PENINSULA MILLS

Delegates to the Portland convention who have their sights set to visit the Olympic Peninsula mills have several possible routes and they will take them through some of the prize scenery of the evergreen country of the West.

SHELTON is the site of Rayonier's Central Chemical Laboratory and here is a unique and complete rayon pilot plant in miniature, where experimental work can be done on special products made from Rayonier pulps. A great deal of research must go into the dissolving pulp field, as is well known, and these unusual research facilities with their intricate, automatic and continuous methods for producing yarn and staple products from cellulose is open to delegates.

This mill has substituted the use of ammonia base in place of calcium base in its sulfite process, permitting about a 50% evaporation of the liquor and its disposal by burning in four 16 x 100-foot furnaces on a hill above the mill. A 375-ft. high brick stack, rising 535 feet above water level, carries off the vapors. The liquor is drawn off from the unbleached pulp and pumped to a series of chambers in which the flue gasses concentrate the solids and the residue is pumped to the incinerator. Special stainless steels are used extensively in handling the concentrated liquor and the furnaces are lined with fire brick.

Shelton has a Black Clawson 128-inch cylinder pulp dryer and makes a large proportion of the dissolving pulp for the cellophane industry. Like all Rayonier mills, however, it can make several special products. Capacity is 225 tons a day. Winston Scott is resident manager. Dr. Arthur Parrett is director of the Central Chemical Laboratory.

HOQUIAM—Here are really two mills—the sulfite pulp and the bond and sulfite paper mill with two companies interested—Rayonier Incorporated and Grays Harbor Pulp & Paper Co. which manufactures and markets the paper made here. A Black-Clawson 128-inch Fourdrinier pulp machine makes highly puri-

fied wood cellulose for the rayon textile market principally and a Bagley & Sewall and Beloit 202-inch Fourdrinier makes the paper. There are both hydraulic and mechanical barkers here including a large hydraulic barker for big logs operating like a lathe in turning the log, and a traveling nozzle with 1400 psi water pressure.

The Hoquiam mill is distinguished for its big 25-ton pulp digesters, reputedly among the largest in the world. In the papermaking end, there are eight 2,000-ton beaters and jordsans used also in stock preparation. Extensive finishing installations for cutting, trimming and converting are here. In the pulp mill, an automatic layboy and finishing room equipment made in Hoquiam by Lamb-Grays Harbor Company is one of the interesting installations. There is a bleach plant and total pulp capacity is 320 tons daily of bleached sulfite. Of this quantity, the paper mill receives pulp adequate to produce up to 90 tons daily of sulfite paper. Rayonier's Central Engineering, Timber and Industrial Relations Divisions are in Hoquiam. George Cropper supervises operations at both Hoquiam and Shelton and James Sheehy is resident manager at Hoquiam.

PORT ANGELES MILL OF RAYONIER is the largest of the dissolving pulp mills and it has a 156-inch Fourdrinier and a Minton vacuum type dryer. Its pulp is largely destined for the rayon textile field, although other types are also made. Here is a large lathe-type hydraulic barker and large woodroom operations. At this mill, the first stainless steel-lined digester for sulfite pulp was recently introduced, with A. O. Smith-spot-welded lining and fabricated by Hydraulic Supply Co. Seven other digesters are brick-lined. Capacity for this mill is 250 tons per day. William E. Breitenbach, vice president, is resident manager here.

PORT ANGELES DIVISION OF CROWN ZELLERBACH has three newsprint machines and a sulfite and groundwood mill. On May 24 it set a 28-year record for a day's operation by making 441 tons of news. A novel hydraulic barker for large cants and slabs has been put in operation here, substituting a nozzle for the planer head of a knife barker, which will debark cants or log quarters up to 20 ft. long. Recent improvements at this mill include a two-speed all-steel log haul, for farmer or large wood; new steam removal in groundwood plant, and improvements on the paper machines, including addition of second suction presses. Malcolm Otis is resident manager and Tom Hargreaves is assistant manager.

PORT ANGELES DIVISION OF FIBREBOARD also has groundwood and sulfite pulp operations and two cylinder board machines. Products are tag board, milk carton, milk cap board, coated board and pulp board. Its listed capacities are 65 tons of sulfite pulp, 30 tons of groundwood and 85 tons of paperboard and pulp board. A recent new installation here is the changeover from hogged fuel to new oil furnaces, reflecting the closer utilization of wood for merchantable products. Verne Basom is resident manager and Nelson Hartnagel is assistant manager and logging manager.

PORT TOWNSEND kraft operations for Crown Zellerbach are the subject of an extensive article elsewhere in this issue, describing all new postwar developments there including new wood-handling and hydraulic barking equipment, new pulp preparation and refining systems, an unusual Dorr installation, new evaporators, and a large new multi-wall bag plant. This mill has one paperboard and one paper machine. It has capacity of 325 tons. Leonard Ziel is resident manager and Norman Lewthwaite is assistant manager.

WOOD FIBER DIVISION OF Simpson Logging Co. at Shelton is one of the new mills of the West, developed to utilize the forest resources of the 50-year Simpson Logging Co. It makes a coated insulating board. Equipment includes an Asplund Defibrator, a battery of Bauer pulpers, a Downingtown board machine and Coe Dryer. B & W rotary digesters are used. Harold Ahlskog is general manager of the Woodfiber Division.

COLUMBIA RIVER PAPER MILLS, Vancouver, Wash.

Just nine miles north of Portland, this is on the routes to either Camas or Longview. Here is one of the most highly specialized paper mills on the Pacific Coast.

Operations started in 1923 by the late F. W. Leadbetter, pioneer of western mills, and associates, the papermill going into production in 1924. Bleached pulp is used almost exclusively here in the manufacture of paper products including printed and waxed specialties, bonds, off-set, envelope, writing grades, sulfite manifold, manifold parchment, greaseproof, tissues, safety paper, special design wrappings. Pacific Genuine vegetable parchment.

The sulfite mill has four 12-ton and one 16-ton digesters. Within the past two years a caustic stage has been added in the bleach plant, the equipment for which was furnished by Pulp Bleaching Co. of Seattle. Approximately 100% of the plant production of 130 tons per day is treated in the caustic bleach.

Principal machinery includes three Fourdriniers—two Bagley & Sewall 136-in. machines and a 134-in. Beloit; a parchmentizer, two waxing machines, two converting units, Roger 30-ton pulp dryer, and seven printing presses.

Robert H. Noyes, Sr., is president, and N. G. Teren, vice president and general manager, but their offices are in Portland. Visitors should contact George E. Miller, resident manager, or Edge N. Wennberg, superintendent, who formerly was in New England and New York mills.

SPAULDING PULP & PAPER CO., Newberg, Ore., 20 miles south of Portland, will soon have capacity for 110 tons of unbleached paper sulfite pulp on two cylinder machines, one 100-in. and one 72-in. The small one is being converted from shredded dryers and will have 26 new Willamette Iron & Steel Co. (Portland) steel fabricated cylinder dryers, which are lighter-weight, regarded as safer, and have faster heat transfer than the old castiron type. This firm has already installed 28 of these as new top dryers for the large machine. Bird Dirctes, Chemipulp digester circulation, Baldwin press and an entire new hydraulic wood barking plant for logs up to 22 ft. long and 60 in. wide, provided by Worthington, are among other new installations. J. B. Wilt is general manager at Newberg, Perkins-Goodwin Co., and five Wisconsin, Michigan and Illinois mills are co-owners.

SPRINGFIELD, Ore., containerboard mill of Weyerhaeuser Timber Co., 50 miles south of Portland, is the newest of coast mills—it started up in August and is designed to produce 150 tons of kraft pulp and containerboard. Located in the biggest sawmill region in the world, its raw material will be sawmill "left-overs"—slabs and trim—and it is a model example of wood utilization and integration of forest industries. Weyerhaeuser also has just completed a new sawmill here. Major equipment in this new mill are Rice-Barton machine with Valley Iron Works headbox; Carthage 10-knife chippers, three of them, a Fibre Making Processes drum barker, two Shartle-Dilts Hydrapulpers, Blaw-Knox digesters, Combustion Engineering boilers, Hydraulic Supply (Seattle) evaporators, Dorr caustic system, and it is a virtual fully closed system of operation. Marvin Jones is mill manager.

PACIFIC PAPERBOARD CO., Longview, Wash., is a 200-ton per day board mill making several types of board. The plant has one Fourdrinier, Bagley & Sewall, and 3 cylinder machines—including one Black-Clawson Co.

unit and a Moore & White machine. Ten beaters are currently used, but six will be eliminated with completion of present project installation of Shartle preparation equipment with Hydrapulper. Stock is expected to have constant flow and be uniform. The installation is expected to get into operation this month. Visitors should ask for E. E. Flood, president; J. G. Long, vice president and technical director; or T. J. Kennedy, secretary-treasurer and general manager.

OREGON PULP & PAPER CO., Salem, Ore., is the only mill on the Pacific Coast manufacturing glassine greaseproof papers. Other paper products include manifold parchment, light and colored bond, ledger, envelope, and additional bleached specialties. The plant has three Bagley & Sewall Fourdriniers—two 136" and one 117", and a rebuilt 110" unit. There are six 12-ton digesters in this bleached sulfite mill which produce 130 tons per day. Robert H. Noyes, Sr., is president; N. G. Teren, vice president and general manager, both in Portland, and Karl W. Heinlein is resident manager.

ST. HELENS PULP & PAPER CO., St. Helens, Ore., is 160-ton sulfate (only 20 miles from Portland) making paper specialty products all the way from tissue to tag board, both bleached and unbleached. The plant has four digesters lined with A. O. Smith Corp. stainless steel and two Beloit Fourdriniers, a 169" and 202" wire. Wood is processed by drum barker. Farmer wood arriving at the mill in 8-ft. lengths is handled by whirley crane. A 40-machine bag plant, operating in conjunction with the mill, has several new pieces of equipment including what is rated as the fastest operating self-opening bag machine in the world, a Weber unit producing upwards of 200,000 6-pound bags in 8 hours. Visitors should ask for Max Oberdorfer, president and general manager; Max R. Oberdorfer, Jr., vice president and assistant manager; Irving T. Rau, secretary and treasurer and purchasing agent.

FIR-TEX INSULATING BOARD CO., St. Helens, manufactures all types of insulating board and accoustical tile to extent of 400,000 square feet per day on 1/2" basis, 100 to 150 tons of mechanical pulp daily. Wood used, including Douglas fir, Western hemlock, and spruce, is barked in drum barker. Chipping is carried on with 110" Karlstad unit for larger wood and a Sumner 84" machine for small wood. There is one Fourdrinier, a 166" Beloit machine; 6 rotary digesters; and various types of refiners—Weiners, Bauers, and Jordans. Adjacent to mill is Western Insulated Products, Inc. plant, a wholly-owned subsidiary manufacturing asphalt saturated and coated siding. Franklin T. Griffith, in Portland, is president. Visitors ask for L. V. Frisch, general manager, or Velden Anderson, general superintendent.

CROWN ZELLERBACH CORP., Lebanon, Ore., is a small pulp and paper mill producing 60-ton per day, about half of which is cartridge manila and the rest is butcher wrappings. Here the logs can be observed practically "coming out of the woods" and the various steps of pulp and paper manufacture readily followed through the operations. Milk-of-lime acid system is used here, as is the hydraulic barking of logs. Visitors contact G. H. Gallaway, resident manager, or R. D. Waddell, technical supervisor.

EMPIRE, ORE., division of Coos Bay Pulp Corp., is on Southwest coast of Oregon out on a spit at end of Coos Bay. Almost one big community with Empire are adjacent towns of Coos Bay (formerly Marshfield) and North Bend, and any delegates going here should take spectacularly scenic Oregon coastal highway. High quality wood, 50% spruce, 20% hemlock, 30% white fir, produces a quality unbleached sulfite pulp, 75 tons a day, shipped by water all the way to parent Scott mill at Chester, Pa. There are two digesters, Black Clawson cylinder drier with two molds and 44 drier rolls, acid plant with Glens Falls rotary sulfur burner and Jensen system. Mill has own water system and leases sawmill operation to Coos Head Timber Co. C. Wylie Smith is vice president and general manager; James D. Fraser, superintendent.

20 OLIVER "RINGVALVE" FILTERS

**Nearby -
for Your Inspection**



It's your opportunity, while at the Portland TAPPI Meeting, to see the famous Oliver Ringvalve Filters in action. For, not far from Portland, 20 of these units are in operation performing a variety of services. Here are the mills:

Crown-Willamette, Camas, Wash.
Everett Pulp & Paper, Everett, Wash.
St. Regis, Tacoma, Wash.
Weyerhaeuser, Longview, Wash.
Weyerhaeuser, Longview, Wash.
Weyerhaeuser, Longview, Wash.
Weyerhaeuser, Longview, Wash.
Weyerhaeuser, Everett, Wash.
Weyerhaeuser, Everett, Wash.

1-8' x 16' two stage kraft brownstock washing
2-8' x 12' four stage soda brownstock washing
2-8' x 12' primary kraft brownstock washing
3-8' x 16' sulphite brownstock washing
6-8' x 12' sulphite bleach washing
3-8' x 14' three stage kraft brownstock washing
1-8' x 10' sulphite bleach washing-thickening
1-8' x 12' sulphite thickening (bleach plant)
1-8' x 16' sulphite re-washing

You've heard a lot about Oliver Ringvalve Washers and Thickeners. Now you can study their outstanding features firsthand. Do so and when you get back home write us about your washing and thickening requirements. We'll be glad to have an engineer call and discuss the Ringvalve's estimated performance and savings.

P.S. You may be interested, too, in the fact that 4-8' x 14' Rubber Covered Oliver Ringvalve Bleach Washers have been ordered for the new Nanaimo Sulphate Pulp Mill being erected at Nanaimo, B. C.

OLIVER UNITED FILTERS



inc.

New York 18, N. Y.
33 West 42nd Street

Chicago 1, Ill.
221 N. LaSalle Street

Western Sales Div:
Oakland 1, Calif.
2900 Glascok Street
San Francisco 11, California

Sales & Manufacturing Representative:
E. Long Limited, Orillia, Ont., Canada

Factories: Oakland, Calif.

• **Hazleton, Pa.**

• **Orillia, Ont., Canada**

• **Melbourne, Australia**

September, 1949

77

FOREST FIBER PRODUCTS CO., Forest Grove, Ore., a subsidiary of Stimson Lumber Co., has just this summer started up a new Douglas fir bark-free waste hardboard plant. It is equipped with Sumner chipper, Asplund defibrator, two Bauer pulpers, Downingtown Fourdrinier machine, and Wood hydraulic press. Harold Miller is president, Ray Replogle, vice president, and Jack Frost is manager.

CANADIAN MILLS

For the same round trip fare they would pay to Portland and straight back home, convention delegates can make a loop tour north or south on the Pacific Coast to mills from Los Angeles all the way to the new Celanese plant just being built at Prince Rupert, almost to Alaska, a span of up to 2,000 miles in a north-south direction. In Canada the fare could include boat or rail travel and return via Jasper or Banff parks.

A new 200 ton bleached kraft mill is rapidly being completed at Nanaimo, B. C., scenic boat haven on Vancouver Island, with all buildings up and much of the major construction done. Nanaimo Sulphate Ltd. is a unit of the MacMillan forest industries, its manager is Clifford Crispin and superintendent, Larry Harris. The work is not as far advanced on the Celanese alpha pulp mill at Prince Rupert, but is going along rapidly.

Here are completed mills open to visitors in British Columbia, the border being about 300 miles north of Portland:

SIDNEY ROOFING & PAPER CO., Victoria, B. C., within a few minutes' walk from the center of the city, interesting because of recent extensive modernization carried out by Columbia Mill Development Co. The program included slush stock preparation and storage tank, changeover of a cylinder machine to an 84-inch Fourdrinier, construction of a double machine room, and steam plant with 60,000 lbs. per hour capacity. The mill produces heavy building and carton papers and boards. The company was founded during World War I by R. W. Mayhew, who in addition to his presidency of the company is a member of the Canadian cabinet. His son, R. Logan Mayhew, is vice president. Until recently the company was controlled by the Mayhew family, but majority stock is now held by the E. B. Eddy Co. of Hull, Que., and Ottawa, Ont., headed by Garfield Weston is chairman of both companies. Delegates wishing to visit the mill should communicate with T. N. Finical, mill manager; or A. J. Saunders, resident engineer.

WESTMINSTER PAPER CO., New Westminster, B. C., one of the most accessible plants, is between Bellingham, Wash., and Vancouver, B. C. This mill produces fruit wraps, tissues and a wide variety of specialty papers for domestic and export trade. Modernization has been carried out here on an extensive scale with the installation of a new Beloit machine and establishment of a groundwood mill to give the company greater independence in its supply of pulp. Established in 1922 by John J. Herb, who is still chairman of the board, the company has been consistently successful. His son, E. M. Herb, is president. Visitors should contact Mill Manager John Ashby.

POWELL RIVER CO., Powell River, B. C., one of the world's largest newsprint producers, and noted for its progressive management. The company has recently completed a large-scale expansion program whose climax was the installation of No. 8 newsprint machine, built by Dominion Bridge Co., and incorporating a totally inclosed stock inlet and a pressure-controlled gravity-accelerated combination flowbox and slicer. The machine is expected to average about 200 tons daily at 1500 f.p.m.

In anticipation of this installation the mill's wood-handling facilities were completely reorganized. This involved installation of a Weyerhaeuser type hydraulic barker, a Waterous whole log chipper and an Allis-Chalmers smaller log hydraulic barker. The company recently developed a high yield sulfite system. One of the oldest as well as biggest pulp and paper mills in British Columbia, Powell River Co. was launched by the Brooks-Scanlon organization in 1911. Annual production of newsprint is about 276,000 tons, of unbleached sulfite pulp, 47,000 tons. The mill, 80 miles north of Vancouver, is reached by steamboat or plane. President is Harold S. Foley and his brother M. J. (Joe) Foley, is executive vice president. Visitors should contact M. J. Foley or Harry Andrews at the Vancouver office, Standard Building.

BLOEDEL, STEWART & WELCH, LTD., Port Alberni, B. C., is the newest of Western Canada's operating pulp mills, producing 175 tons of unbleached kraft pulp daily. It is owned by one of British Columbia's biggest forest utilization companies which also operates two sawmills and a shingle mill. J. H. Bloedel, Seattle, pioneer timberman of the Pacific Northwest, is chairman, and his son Prentice Bloedel, Vancouver, B. C., is president. The mill was designed by Howard Simons and built by B. C. Bridge & Dredging Co. One of its features is a new type of ring hydraulic barker, the ring equipped with nozzles and revolving around the logs that are fed to it. The mill may be reached by railroad or highway from Nanaimo or Victoria through dense forests. Visitors should contact James Petrie, manager, or Einar Walloe, superintendent, Port Alberni or the Vancouver office, Standard Building.

PACIFIC MILLS, LTD., Ocean Falls, B. C., is one of the most diversified producers of pulp and paper. Canadian associate of the Crown Zellerbach Corp., and on steamship route to Prince Rupert and Canadian National railroad east. It produces about 80,000 tons of newsprint annually, 45,000 tons of wrapping and tissue papers, 18,000 tons of sulfite pulp, 80,000 tons of groundwood pulp, 45,000 tons of kraft pulp. The company recently modernized its system for the zinc hydrosulfite bleaching of groundwood and installed one of the biggest boiler plants in the industry—a Babcock-Wilcox & Goldie McCullough unit rated at 175,000 pounds an hour. Ocean Falls is the farthest north operating pulp mill in British Columbia. The townsite has been modernized and a \$1,000,000 hotel built. Pacific Mills operates a large converting plant and Canadian Boxes, Ltd., both in Vancouver. Visitors should advise the head office in Vancouver of plans.

B. C. PULP & PAPER CO., LTD., with mills at Port Alice and Woodfibre, B. C. These mills produce high grade dissolving pulps. Since mid-July, however, both plants have been closed and at mid-August it was uncertain when they would be re-opened. The management states that ordinarily visitors are always welcome at both mills, but under present conditions it would be impossible to arrange a satisfactory reception.

SORG PULP CO., LTD., unbleached kraft mill at Port Mellon, B. C. Although this company, a subsidiary of Sorg Paper Co. of Middletown, O., recently completed an extensive modernization program, the mill has been shut down for an indefinite period, and no accommodation is available for visitors.

California Mills

SAN JOAQUIN DIVISION, Fibreboard Products Inc., East Antioch. Largest single project in the Fibreboard three-year plan is the erection of a new two-machine board mill and converting plant on the south bank of the San Joaquin River, about two miles east of Antioch, Calif. This project, known as the San Joaquin Division of Fibreboard will add over 200 tons per day to existing board mill capacities. The company has acquired 95 acres on the mainland and a 165 acre island in the river for the new plant. C. M. Stitt is plant manager; C. R. P. Cash general superintendent, paperboard mill.

ANTIOCH DIVISION, Fibreboard Products Inc., Antioch, Calif. A new power plant is being erected and additions to the carton department and have corrugated box department stepped up the finished goods output of these departments by 50 per cent. M. E. Sanford is plant manager. In the plant, which is powered with steam and electricity are 11 1,800-lb. beaters, eight 2,000-lb. beaters, two breaker beaters, 10 jordan, three cylinder machines. Production is 200 tons per 24 hours.

STOCKTON DIVISION, Fibreboard Products Inc., Stockton. A new power plant, including a 3,500 k.v.a. turbine has been installed and additional buildings and equipment has been installed which has increased the shipping container output by 75% and the carton output by 50%. P. H. Keller is resident manager. In the paper mill, which is powered with steam and electricity are 16 2,000-lb. beaters, two Shartle breaker beaters, 11 jordan, two cylinder machines, and production is 250 tons per 24 hours.

JOHNS-MANVILLE PRODUCTS CORP., Pittsburg, Calif. Production in this plant is some 36 tons in 24 hours. Resident manager is W. B. Kelley. In the paper mill is a 5-cylinder machine and five beaters.

THE PARAFFINE COMPANIES, INC., head office San Francisco, plant at Emeryville, Calif. J. B. Lee is resident manager of this plant which manufactures felts, roofing, mulching papers, etc. Equipment includes one two-cylinder machine, three Asplund defibrators, one chipper, 16 beaters, six jordan, and a 16-ft. Hydrapulper.

FERNSTROM PAPER MILLS, Pomona, 30 miles east of Los Angeles, is virtually surrounded by orange and walnut groves for which its effluent is in demand for irrigation and mulch. A new fast machine on flat tissue is capable of producing in excess of 1,200 ft. per minute. It has a 160-inch Fourdrinier trimming 144, and 26 paper and five felt dryers. This mill specializes in fruit wrap, waxing tissue, semi-creped napkins, one-time carbonizing tissue, with three machines. It has doubled capacity with No. 3 which can average better than 1,000 tons monthly. No. 3 is a Black-Clawson machine with drives by Reliance Electric & Engineering Co.; inlet and headbox by Valley Iron Works; ventilation by J. O. Ross. A Dilts Hydrapulper and Bird screens are other new equipment. Heads of the firm are Erik and F. O. Fernstrom.

L.A. PAPER BOX & BOARD MILLS in South Los Angeles, is a box and container board mill. Capacity, 50 tons daily. Has a 6 cyl. Beloit board machine. Plant was erected in 1942. Floyd Adams is chief engineer and Claude Sharp is superintendent.

ANGELUS PAPER BOX CO., next door in South Los Angeles. It produces all grades of folding, set-up and corrugated box board and boxes. This comparatively new mill, built since the war, has a 6 cyl. Black-Clawson board machine, with 97-in trim, with all modern accessories. Has Shartle stock preparation equipment with two Hydrapulpers. There is also a complete set-up box and corrugated box plant at 619 E 61st St. At the main 6001 S. Eastern Ave., plant Bob Stevens is manager.

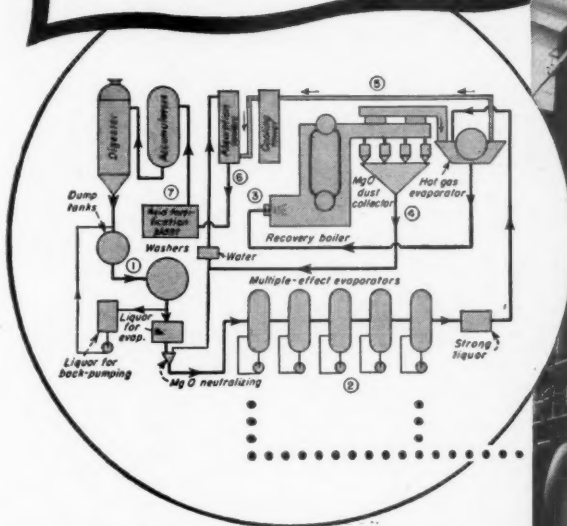
CONTAINER CORP. OF AMERICA, in Vernon, South Los Angeles industrial district, produces 75 tons daily of bogus corrugated medium. Has two Fourdrinier board machines. W. T. Quinn is manager, and Alonzo Hatch, chief engineer.

VERNON DIVISION, Fibreboard Products Inc., is in Vernon section of Los Angeles. It has two cylinder machines with capacity of 150 tons a day. Harvey M. Brown is resident manager.

SUNSET DIVISION, Fibreboard Products Inc., farther South on Soto St., has one cylinder machine of 8 tons capacity on binder and trunk board. H. D. Owens is resident manager.

THE FLINTKOTE CO., Pioneer Division, in South Los Angeles, has three Black & Clawson cylinder machines, two on board and one on felt. Listed capacity is 290 tons a day. George J. Pecero is general manager and W. C. Birdseye is manager of the board mill and Glen Phillips is superintendent.

Sulphite waste recovery system COMBATS CORROSION



Flow chart for this new system at Weyerhaeuser Timber Company's Longview, Washington, pulp mill.

All vessels and vapor lines in this evaporator are Lukens 20% Stainless-Clad Steel, built by General American Transportation Corp.



...with Stainless-Clad Steel

Recovery of sulphite-process chemicals, elimination of stream pollution, steam for process and power generation—these are the advantages of this new process. It employs magnesium oxide as the base for the cooking liquor, instead of the usual calcium oxide.

Lukens Stainless-Clad Steel, used in the quintuple effect evaporator pictured above, combats corrosion in case liquors and vapors become acid in character. Because stainless steel is only 20% of total plate thickness, the economies gained by using clad steel made it feasible to proportion vapor lines and vapor bodies generously to take care of considerable overloads.

Should your conditions require the protection offered by nickel, Inconel or Monel, Lukens makes a complete line—Nickel-Clad, Stainless-Clad, Inconel-Clad and Monel-Clad Steels. In each, the cladding is permanently bonded to its backing plate. All are available in the extra-smooth sodium hydride finish.

Send for Bulletin 470, giving information on clad steels in the Pulp and Paper Industry, or Bulletin 449, a general bulletin on Lukens Clad Steels. Lukens Steel Company, 444 Lukens Building, Coatesville, Pennsylvania.



LUKENS

Nickel-Clad Stainless-Clad
Inconel-Clad Monel-Clad

STEELS

SOLID METAL ADVANTAGES WITH CLAD STEEL ECONOMY

OLDEST TECHNICAL SECTION

A Founder Recalls Early Activities

By Dr. H. K. Benson

Department of Chemistry and Chemical Engineering,
University of Washington, Seattle.

The Pacific Section of Tappi has now reached the age of 21 and is sufficiently mature, we think, to be host for the parent body in Portland in September, 1949. Like any young man that has come of age, it is a matter of pride to welcome the dads and mothers to the home of the Pacific Coast Section for the National Fall Meeting. The Pacific Section is glad that you have come West.

The origin of the Pacific Section goes back to the spring of 1928, to the office of David B. Davies, manager of the Rainier Pulp and Paper Co., Shelton, Wash., (later Rayonier Incorporated) when William E. Breitenbach, chemist (now vice president of Rayonier), and the writer, then a consultant for the company, discussed with Mr. Davies the desirability of having the technical men of the region get together for acquaintance and discussion of problems of common interest. Mr. Davies had been very active in the Superintendents association in Wisconsin before coming to Washington in 1927, and he believed that on the Coast a joint body of executives and chemists should be organized.

To test the validity of this dream, Mr. Breitenbach and the writer set out in Bill's Chevrolet roadster on a 3-day jaunt to Port Angeles, Port Townsend and Grays' Harbor to talk to Norman B. Gibbs, at Washington Pulp and Paper Co., A. B. Layton and E. W. Erickson at National Paper Products Co., and Don Charleson at Grays' Harbor Pulp & Paper Co. We were cordially received and so was the idea.

Upon our return it was decided to invite representatives of all the mills in the Pacific Northwest to a one-day conference in the College of Forestry Building at the University of Washington. This meeting was held Oct. 26, 1928 and approximately 100 men attended the day



FOUNDERS OF THE PACIFIC SECTION

HENRY K. BENSON (left), who for 30 years headed Chemistry and Chemical Engineering Dept. at U. of Washington and is now Professor Emeritus and Director of Research for Laucks Laboratories, Inc., Seattle.

WILLIAM E. BREITENBACH (right), Vice President of Rayonier Inc., and Resident Mgr. at Port Angeles, Wash.

In this article, Dr. Benson tells how together they toured Olympic Peninsula mills in spring of 1928 "in Bill's Chevrolet roadster" to sell the idea of a technical association in the West. They were spurred on in their mission by the late **DAVID B. DAVIES**, then Manager of Shelton mill.

sessions and nearly twice that number of men and women were at the banquet at the Via Fontana dining room of the Wilsonian Hotel in the evening.

At the conclusion of the banquet speeches, those interested in forming a permanent organization were invited to remain for discussion. The general expression was that some kind of a technical organization should be maintained on the Pacific Coast. B. T. McBain, a national officer of Tappi, stated that the executive committee had declared itself in favor of a Pacific Coast Section.

A resolution was passed that each operating mill designate a representative

to serve on a committee to work out plans for "future meetings and conferences of the pulp and paper industry on the Pacific Coast."

In response to these invitations 12 men met at the New Washington Hotel on Jan. 12, 1929 and unanimously went on record in favor of a Pacific Section.

Those present were: Robert H. Scanlon and Robert Bell-Irving of Powell River Co.; E. P. Brennan of the British Columbia Pulp and Paper Co., Woodfibre, B.C.; F. C. Brewer, Shaffer Box Co., Tacoma; Ralph Reid, St. Helens Pulp and Paper Co., St. Helens, Ore.; Myron Black, Inland Empire Paper Co., Millwood, Wash.; Robert Bundy, Fiberboard Products Inc., Port Angeles; C. B. Everitt, Fidalgo Pulp Manufacturing Co., Anacortes, Wash.; Erik Ekholm, San Juan Pulp Manufacturing Co., Bellingham, Wash.; William E. Breitenbach, Rainier Pulp and Paper Co., Shelton; B. T. McBain, Northwestern Pulp and Paper Co., Portland, Ore.; and the writer.

At this meeting a resolution was prepared and dispatched to the secretary-treasurer in New York for presentation at the annual meeting of the Technical Association in New York, Feb. 19-21, 1929. At the latter meeting, the secretary was instructed and authorized to visit the Coast and arrange for the formation of the Pacific Section. This was done at a meeting held June 22, 1929, at the New Washington Hotel. Thirty-three men took part and after hearing an outline of the work of the Technical Association and its relation to the Pacific Section, proceeded to election of officers as follows:

Chairman, C. R. P. Cash, Cascade Paper Co., Tacoma; vice chairman, R. M. DeCew, Fiberboard Products Inc., Sumner; secretary-treasurer, Dr. H. K. Benson, executive officer, Department of Chemistry and Chemical Engineering, University of Washington.

At the first meeting after the organization, at the Winthrop Hotel in Tacoma, Oct. 5, 1929, P. H. Glatfelter, who is president of P. H. Glatfelter Co., with paper mills at Spring Grove, Pa., and was then president of the national technical association, was present and greatly enthused the group of seventy-seven men present to hear the program of technical papers. At the banquet, the orchestra broke into familiar songs and everyone joined in the singing.

Someone remarked, "Well, that settles it. You can just bet this Pacific Coast Section is organized and on the march," and that was true; the Pacific Section has led the way for other sections that came later.

At this meeting, Robert S. Wertheimer, vice president and resident manager of

COAST SECTION IS THE OLDEST TECHNICAL DIVISION

Eds. Note—The Pacific Coast Section was the first and is the oldest section of the Technical Association and it has pioneered many of the activities now being adopted elsewhere. For the third time in its history it is host at a national convention. On this occasion, PULP & PAPER asked Dr. Henry Kreitzer Benson, professor emeritus of the University of Washington—"who was there"—to recall those early days.

Before this section was formed, the national organization in New York had some doubts whether it even wanted sections. Dr. Benson suggested the idea of a section from his experience in the similar organizations of the American Chemical Society and he persuaded the national body to adopt the plan.

Today, Tappi has gone far along the road of de-centralizing and building up regional autonomy and activities of its sections, which now number nine.

There are really 12 independently active bodies, as the Empire State groups holds regular division meetings in New York, Glens Falls, Niagara Falls and Watertown. Other sections are: Ohio; Chicago; Kalamazoo Valley; Lake States; New England (South); Maine-New Hampshire; Delaware Valley, and Pacific.

There are no TAPPI sections in the vast Southern pulp and paper industry although individuals from that area are members. In Southern California, Paper Makers and Associates is an independent technical organization.

The author, Dr. Benson has made many contributions to this industry in the west and nationally, and has written many technical books and papers. Born in 1877, in Lebanon, Pa., he graduated from Franklin and Marshall College, where he later received his doctorate in science. He joined the university faculty in 1904 and became head of chemistry and chemical engineering in 1919. Recently retired, he is now research director for Laucks Laboratories, Inc., Seattle.

at last... a new, profitable way to

COMBAT

THE BLACK MENACE OF

STREAM POLLUTION!



Fulton Iron Works Company has developed a unique method of minimizing pollution problems—and saving chemicals, water, labor and power at the same time!

WHAT IT IS:

The new Fulton Fibre Press is a highly-efficient machine that concentrates your black liquors to a greater degree than ever before possible.

WHAT IT OFFERS YOU:

- 1—easier waste control methods
- 2—cheaper and greater chemical recovery
- 3—up to 75% reduction in effluents
- 4—less need for handling equipment
- 5—lower wash water demands
- 6—continuous operation

If you process any form of pulp, investigate the

**FULTON
FIBRE PRESS**

... the "money-savingest" machine you can put in your mill!

A FULTON Fibre Press at our plant is at your disposal—without obligation—for testing its cost-saving and quality-improving features. For full details, phone, wire or write:

FULTON IRON WORKS COMPANY

SAINT LOUIS 14, MISSOURI

New York Office 82 Wall Street, New York 5

MAKERS OF FINE PROCESSING AND EXTRACTION EQUIPMENT SINCE 1852



HERE IS THE FIRST TECHNICAL MEETING OF THE PACIFIC COAST PULP AND PAPER INDUSTRY and the fore-runner of the Coast Technical Section. This picture was taken Oct. 26, 1928, at Anderson Hall, College of Forestry, University of Washington, attended by about 100 men who heard papers by Clark C. Heritage, now head of Weyerhaeuser Timber Co.'s wood research; Vance Edwards, now sulfite supt., International Paper Co., Palmer, N. Y.; C. R. P. Cash, now supt. at new Fibreboard mill at East Antioch, Calif.; the late David I. Davies, manager for Rayonier at Shelton; and an array of college savants. Dr. Benson was chairman.

IN THIS PICTURE, taken 21 years ago, we are able to "spot" Dr. Benson; Clark Heritage; R. S. Wertheimer, v.p. of Longview Fibre; Lawrence Killam, president of

B. C. Pulp & Paper Co.; George Cropper, general supervisor of Rayonier western mills at Shelton and Hoquiam; Myron Black, now mill mgr. at Inland Empire; Bill Weill; Ray Smythe, who represents several supply firms; Halvar Lundberg; Sid Drew; L. R. Wood, resident engineer, Rayonier, Hoquiam; Bill Coster, gen. supt., Soundview; Richard Haynes; Louis Labow; Dr. Bror Grondal, U. of Washington, and W. E. Crosby, now forestry editor of PULP & PAPER and editor of THE LUMBERMAN. We could guess at some others.

Interesting how so many who attended are with companies which then—and now—take a long-term view in their planning. Wonder who, today, could completely identify this picture—left to right by rows. Want to try it?

Longview Fibre Co., was elected the first chairman for a full year's term.

Space does not permit to go on with this historical sketch. The section kept in intimate contact with the leaders of the industry, many of whom came to the Coast to address the section. Although the depression was in full swing and the pulp mills were battling low-priced foreign pulp and were short of orders, the Pacific Section marched on, continuing to provide interesting and instructive meetings.

Finally, five years after its organization, the national organization came, 500 strong, to hold its first western meeting in Portland, Sept. 10-13, 1934. The association of men from all over the industry with the men of the Pacific was an element of great strength and encouragement to our young section. The second national convention was in Seattle in 1940. Even though we are now fully grown up, we welcome that same association in the third national meeting to be held in the west — again in Portland.

REMINISCENCES— —By Former Chairmen

Here's what the men who were the leaders in those first years of the Pacific Coast technical section host body at the Portland convention have to say about those earlier events:



C. R. P. (Dick) CASH (left) elected first Chairman in 1929, while at the old Cascade Paper Co. in Tacoma—now general superintendent of the pulp and board mill of the new San Joaquin division of Fibreboard Products Inc., just

starting up in East Antioch, Calif.:

"That golden era between World War I and the great depression saw the bur-

geoning of the pulp and paper industry on the Pacific Coast. Already it was old, but this period was marked by erection of many new modern mills.

"Quite a group of technical personnel, operators and management personnel were living on the coast and of course, those enthusiastic people, the 'peddlers' were also there, seeing that enough supplies got across the plains and out of the clutches of the Sioux to keep a sheet on the machine. The only benefit they got in the eastern technical organization was to read their transactions and contribute dues to help defray the expenses of those magnificent annual affairs in New York.

"A few coast members thought we ought to have a western section, an idea which was hailed in the east with about as much enthusiasm as the British displayed when the American colonies proposed self-government. However, we persisted and after a few carefully supervised meetings in the Hotel Washington in Seattle, where proper precautions were taken to avoid an outright 'declaration of independence', we were permitted to hold a convention in Tacoma. Like in 1776, some 'Tories' almost torpedoed the good ship before it was even launched expressing fear that if these technical men participated it would mean the dissemination to competitors of information gathered at great expense. We finally decided that the high ethics of engineers and scientists would give adequate protection to those who wished to protect confidential matters.

"So we had our first 'Continental Congress' at the Winthrop hotel in Tacoma on October 5, 1929, with Bob Wertheimer, manager at Longview Fibre; George Cropper of Rayonier, Harry Andrews of Powell River, Ralph Reid, now at Spaulding Pulp & Paper Co.; Dr. Benson and others on hand to take leadership. There were 77 there and they didn't lack for pep. The corporations which held aloof at first have become the most enthusiastic supporters.

"Incidentally, when that Tacoma meeting got to the singing stage, the most popular song was 'On Wisconsin! On Wisconsin!' principally due to Bill Breitenbach's vocal talents. Another leader was H. A. 'Gob' DesMarais, and we had a papermaking 'lawyer', too, named Scott Z. Henderson. Of course, on the coast, we were all foreigners in those days."

ROBERT S. WERTHEIMER (right), vice president and manager, Longview Fibre Co., the second chairman, elected at Tacoma:

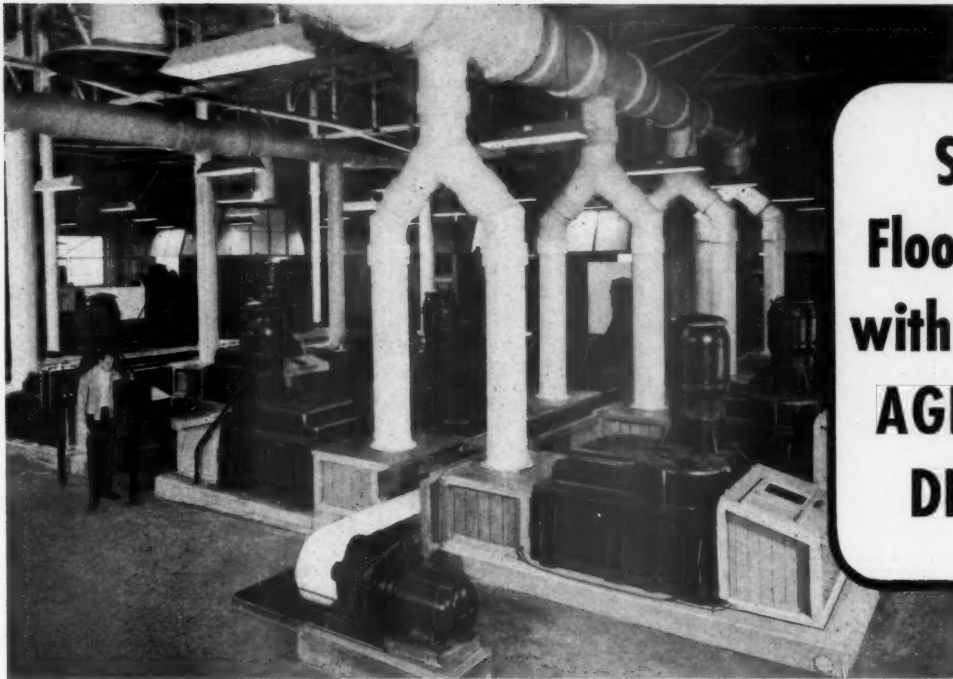
"The Pacific Coast section at first was a poorly attended, very small association, contributed to by only a few of the mills then on the Coast with the added disadvantage that every paper was presented under great duress by those who were handling the programs and participants were very suspicious of divulging any secret information that could help a competitor.

"There has been a complete reversal of this policy on the Coast and now all the mills participate. I think the turning point in the section's history was when the Crown Zellerbach organization decided to participate wholeheartedly in its support. For after that, other companies on the coast became interested in developing a medium of exchanging scientific and technical information."

Minutes of meetings 20 years ago show that Mr. Wertheimer pioneered in expounding the policy of inviting "peddlers" and consultants to take part in the meetings, as he said, "to draw from their specialized experience and knowledge—to give and to take—to the mutual benefit of giver and taker."

At the first meeting ever held in Long-





SAVE Floor Space with Vertical AGITATOR DRIVES

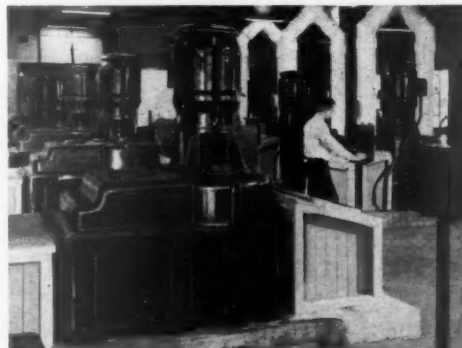
A portion of the 26 Pacific-Western DV-60 vertical agitator drives in use at the new Weyerhaeuser kraft mill at Longview, Wash., is shown in this photograph of the bleach plant. In foreground is a Pacific-Western drive for the conveyors.

Vertical agitator drives like the Pacific-Western DV-60 illustrated above have enabled such progressive pulp producers as Weyerhaeuser to achieve a maximum amount of uncluttered floor space in new bleach plants. Today pulp mill designers can determine floor space requirements by the tank dimensions underneath rather than by the size and shape of the driving unit. The space-wasting problem of the old-style, right angle agitator drives with motors mounted on floor bedplates has been solved by installation of compact Pacific-Western DV-60 vertical agitator drives with motors mounted on top.

Achieving better use of floor space isn't the only reason why more mills are specifying Pacific-Western vertical agitator drives. Costs are important too, and the vertical drives cost less than the old, right angle agitator drives. Precision cut and heat treated helical gears assure both a continuing economy in use and a lack of maintenance. Dual oil pumping systems in each unit provide proper lubrication with no danger of oil seepage.

Through service to the paper industry for more than fifty years, Pacific-Western has developed drives for the special needs of many customers. Ranging from 48 to 70 to 1 ratios with 30 to 150 h.p. motors turning at speeds from 720 to 1800 r.p.m., Pacific-Western vertical agitator drives

are adaptable to a wide variety of uses. If you have a problem in power transmission, call in Pacific-Western. Trained application engineers can assist you in realizing greater benefits from your present equipment or by designing and building new units to make your plant run more efficiently.



Write, wire or phone your nearest Pacific-Western office
Plants at SEATTLE, SAN FRANCISCO and LOS ANGELES
Sales Representatives at PORTLAND, SALT LAKE CITY,
HOUSTON and VANCOUVER, B. C.

YES! GO WEST!
1949 Fall Meeting TAPPI
Portland, Oregon



PACIFIC GEAR
& TOOL WORKS



WESTERN
GEAR WORKS

PACIFIC-WESTERN

4971

GEAR PRODUCTS

view, April 5, 1930, his father, the late M. W. Wertheimer, then chairman of Thilmany Pulp & Paper Co. and also of Longview Fibre, prophesied: "We will see the day when rule of thumb operators will be supplanted by trained men who know why he does the things necessary to his job."



C. W. "WHIT" MORDEN (left), founder and president of Morden Machines Co., Portland, was the third chairman, serving the 1930-31 term. Says he:

"Back stage in this early period, there was continuing effort to get all

the Coast mills to fully cooperate and permit their men to attend and participate and happily this problem was eventually entirely eliminated."

"**PULP & PAPER** magazine in those days was always in the front and center of these efforts and the long difficult task of finally putting the section on its feet as a going concern," said Mr. Morden.

The late **RALPH H. HANSEN** of Weyerhaeuser Timber Co., served the next two terms as chairman and he is the only one of the long list of chairmen who has passed on. He was the only one ever elected to two terms.



LAWRENCE KILLAM (left), president of British Columbia Pulp & Paper Co., was chairman, 1933-1934:

"This was the year of the first fall meeting ever held on the Pacific Coast and it was held in Portland. It was the first

time industry men from all of North America came to a meeting in the west. In my year as chairman, the Crown Zellerbach organization first started to take an active part in the affairs of the section and thereby very greatly strengthened its effectiveness."

MYRON BLACK (right), mill manager, Inland Empire Paper Co., became the next chairman, 1934-1935, was elected to that post during the Portland convention when he was vice chairman and so, he also has vivid memories of that first big meeting in the west:

"About 500 attended from all over the



continent, many of them making their first trip to the Pacific Northwest. They were impressed with the forest resources, the mills and the people."



WILLIAM R. BARBER (left), technical director, Central Tech. and Research Dept., Crown Zellerbach Corp., became the next chairman, for the term 1935-36, the first Crown Z man to ever hold an official position in an industry

technical association. He was first elected vice chairman, the year before, under Chairman Myron Black

This was one of the most significant events in the whole history of the Coast technical section for from the day that Bill Barber became a member and an officer, the future course of the section was influenced more by him than any other individual. He it was who instigated many of the new ideas that have made this an outstanding live-wire section, ideas which have since been adopted by other sections in the east.

In the national TAPPI organization, as well as on the Coast, Mr. Barber has been the outstanding champion for greater sectional autonomy and independence and for greater participation of the younger men in the mills in activities. He has devoted recent years to the interests of the younger men in the industry, furthering the Shibley award contest and he toured the coast mills personally to encourage participation by young men.

Mr. Barber became vice chairman of the national TAPPI in 1947 but because of the weight of many other duties he was forced to decline nomination to the chairmanship which would ordinarily have been his reward and honor a year ago.

But do you think we could persuade him to be "interviewed" on the things he has done for the national and Coast groups? But he did offer this incident:

"When the die was cast and Crown Zellerbach Corp. decided to participate in the technical association, a delegation came out to the Camas mill and told Jack Hanny, mill manager, they wanted me to be vice chairman. Jack found me out



Portland, Ore., on the Willamette

in the mill in a pair of overalls. They said we had to hurry up and 'join me up' in the organization so I could be elected. I wasn't even a member of TAPPI and besides, I didn't have a cent in those overalls. Jack fished down in his pocket for the money and gave it to the committee and they rushed back to Portland just in time for the election."

After that day Mr Barber has been in the front rank in every progressive activity of the section and TAPPI to this day.

Later Chairmen and Secretaries

Those who have been coast chairmen since Mr. Barber's term are:

1936—Carl Fahlstrom, assistant resident manager, Longview Fibre Co.

1937—George H. McGregor, then gen. supt., Pulp Div., Weyerhaeuser Timber Co., and now supervisor of pulp, paper and by-products research, Minnesota & Ontario Paper Co., International Falls, Minn.

1938-1939—N. W. Coster, now general superintendent, Soundview Pulp Co., then tech. director.

1940—Fred A. Olmsted, now at San Francisco headquarters, Crown Z, then tech. director, Camas.

1941—Carl E. Braun, vice pres. and mill mgr., Publishers Paper Co., then Hawley Pulp & Paper Co.

1942—Edward P. Wood, tech. director, Pulp Div., Weyerhaeuser, Longview, now asst. mgr. Hollingsworth & Whitney, Mobile, Ala.

1943—Clarence Enghouse, assistant to res. mgr., formerly tech. director, Crown Z, West Linn.

1944—Erik Ekholm, general supt., Puget Sound Pulp & Timber Co., Bellingham, Wash.

1945—Harold Bialkowski, research director, Pulp Div., Weyerhaeuser Timber Co., then tech. director at Everett.

1946—George H. Gallaway, res. mgr., Crown Z, Lebanon, then tech. director, Camas.

1947—Joseph L. McCarthy, University of Washington.

1948—Harold C. Wall, chief chemist, Longview Fibre Co., Longview, Wash.

1949—Walter F. Holzer, Central Tech. & Research Dept., Crown Z, Camas.

Robert M. True, General Dyestuff Corp., Portland, has been secretary-treasurer for eight terms, after Fred Shanaman, Penn Salt, Tacoma, held that office four terms. Those considerable duties were performed previously, in order, by J. V. B. Cox, Hercules; Earl Thompson, ex-Dow Chemical; the late Walter Hodges; Albert S. Quinn, Stebbins; E. G. Drew; Myron Black, and Dr. Benson the first two years.

Longview — The City That Was Planned

On the last big bend of the Columbia, 50 miles north of Portland, is the progressive model city of Longview, "The City Practical That Vision Built." It is one of the world's few cities that has been formally dedicated.

On July 12, 1923, this carefully planned community, with its wide, tree-lined streets, scientific flood control, parkway canals, coordinated highway systems, and its hotel modeled after Jefferson's Monticello home, officially came into being, fulfilling the vision of R. A. Long, lumberman and head of the Long-Bell Lumber Co., which had purchased extensive timberlands in Southwestern Washington.

Strategically located on a 14,000-acre peninsula between the Cowlitz and Columbia Rivers, Longview is easily accessible by both rail and water. The Hudson's Bay Co. had taken advantage of this location first in 1846 to build warehouses here.

Built with long, broad boulevards and plenty of planned space for both business and residential sections to grow, Longview's economy was originally centered around what were known as the biggest sawmills in the world—Long-Bell and Weyerhaeuser.

Today Longview is site of operations, not only for Long-Bell and the Weyerhaeuser Timber Co., but of Longview Fibre Co., Pacific Paperboard Co., and several other industries. And today its population is approximately 20,000.



45° Troughing Raises "Pay Load" 30%

From 20% to 30% increased carrying capacity was added to this conveyor belt—at no added cost. One of the world's largest pulp and paper mills needed to carry more wood chips to digesters. This had to be done without sacrificing belt life and dependable operation—for failure here stops a whole cycle of high speed operations.

Deep troughing would carry the increased load. So Pioneer engineers designed a belt with ply assembly that would stand troughing at 45° . . . and withstand this extreme flexing. The plies normally outlast covers—tough as the covers may be. So a longer-life cover was developed to fit the service.

Now well into its second year of operation, this 45° troughed, 36" wide belt, 725 feet long, has run day after day, almost around the clock, and shows no noticeable wear. A new addition to this plant, to be opened soon, will use large quantities of Pioneer belt—much of it deep-troughed, to get that 30% added capacity.

Do you have a belting or hose problem? Give your Pioneer Rubber Mills distributor a chance to help you solve it. His on-the-job know-how is supported by the research laboratories and manufacturing technicians of Pioneer Rubber Mills — the West's Industrial Rubber Goods leader since 1888.

Distributors:

SEATTLE • TACOMA	Washington Belting & Rubber Co.
PORTLAND • EUGENE	Munnell & Sherrill, Inc.
KLAMATH FALLS	Klamath Machinery Co.
SPOKANE • BOISE	Intermountain Equipment Co.
SALT LAKE CITY	National Equipment Co.
DENVER	Western Belting & Packing Co.



PIONEER RUBBER MILLS

BELTING • HOSE • PACKING • RUBBER COVERED ROLLS

PIONEER RUBBER MILLS • 345-53 SACRAMENTO ST. • SAN FRANCISCO • BRANCHES: LOS ANGELES • CHICAGO • ST. LOUIS • FACTORIES: PITTSBURG, CALIF.

September, 1949

85

AN UNUSUAL BOARD MILL PROJECT

EXTENSIVE RE-DESIGN

The Sidney Roofing & Paper Co., Ltd., of Victoria, B. C., a pioneer in the British Columbia papermaking industry, recently completed an important program of modernization and expansion.

This program covered three main phases:

1. Construction of a slush stock preparation and storage plant.
2. Re-design of a cylinder machine of an 84-inch Fourdrinier machine purchased from Sorg Pulp Co. at Port Mellon, B. C., and construction of a double machine room to house this unit; also to provide for future relocation of No. 1 paper machine.

3. Construction of a steam plant having a capacity of 60,000 pounds per hour to replace the old plant and provide the additional steam.

In 1947 the Sidney Roofing & Paper Co.'s mill consisted of two paper machines, a roofing plant and a Fibrerock plant. Increasing demand for paper products such as roofing felt, sheathings and paperboard resulted in a decision to increase the mill's capacity.

Columbia Mill Development Co., Ltd., consulting engineers, Vancouver, B. C., were commissioned to collaborate with the Sidney engineering department to carry out this undertaking, including a complete engineering of buildings, electrical installations and equipment design.

It isn't often that a firm of this kind is given such an extensive assignment in the expansion of a mill. In addition to planning the electrical equipment layout, Columbia Mill Development Co. designed the six-cylinder wet end paper machine, duplex reel, duplex cutter and slitter and stock thickener for stock preparation. The firm also designed a simplified electrical sectional drive for the paper machine, incorporating the use of some of the electrical equipment acquired with the machine. This was not necessarily intended to replace the very precise Harland drive but it is more than adequate for intermediate to slow speed paper machines.

In the steam plant the firm developed a novel hog fuel handling system in cooperation with W. D. Moffatt, plant engineer of the Sidney Roofing & Paper Co. staff. The other details of the program were executed in close collaboration with A. J. Saunders, the company's resident engineer, and his staff.

Slush Stock Plant

The first unit, the slush stock plant, was built in the spring of 1947 on the site of the waste paper storage building, between the groundwood mill and the beater room.



R. L. MAYHEW (Top left) is Vice president of Sidney Roofing & Paper Co., Ltd., and son of company founder, R. W. Mayhew. J. A. CRAIG (right), is General Manager.



(Lower left), A. J. SAUNDERS is Resident Engineer and C. E. CRAIG (right), is Plant Superintendent.

The building has a monolithic reinforced concrete basement and main floor. The basement floor is designed to allow for non-informed soil loading and is called a raft foundation. It was chosen because of the wide variation in the allowable soil loadings of the site. The front end of the building houses the first aid, locker and wash rooms on the main floor; the executive, conference and engineering offices are located on the second floor.

In the basement six concrete pulp storage chests have total capacity of 42 tons of 4% consistency stock. All chests are equipped with propeller agitators. Three 42-in. Shartle Miami-type adjustable pitch propeller agitators were supplied by Alexander Fleck, Ltd., Ottawa.

The white water chest, capacity 8,000 gallons, is also in the basement and provides surge tank characteristics for the waste paper system.

Clean stock is handled separately from salvaged and waste paper. The clean stock is pulped in a 14-ft. diameter Alexander Fleck Batch Hydrapulper (of the Shartle-Dilts type and made in Canada under agreement with Shartle Bros.), operating at 4% consistency, and then

pumped through distribution lines to the storage chests. The waste paper passes through a 14-ft. Alexander Fleck (Shartle-Dilts type) continuous Hydrapulper equipped with a continuous ragger and automatic junk remover, the repulped stock being discharged at 1½% consistency. This stock is pumped from Hydrapulper to either a storage chest or through a mixing tee where white water is added and the consistency brought down to 0.5% before entering the Canadian Sumner Iron Works riffler. The riffler is all-steel with a heresite lining, and from this riffler the stock is discharged to thickeners.

Thickeners made by Vancouver Iron Works have all-steel, heresite-lined vats and are fitted with moulds designed by the consultants. The moulds have only three spiders, an intermediate framework of light bronze annular rings and axial bars with sweated joints. This mould, although very light compared with the conventional design, has proven to be extremely rigid.

The thickeners operate in parallel and are located to discharge directly over the common wall of two stock chests; a moveable vane discharges thickened stock to either chest as desired.

Stock may be pumped from any chest to any beater through distribution lines, as shown on the flow sheet. The distribution valves in the basement are hydraulically operated from the control panel.

All the pumps are Allis-Chalmers and with the exception of the direct-connected white water pump, have superimposed motors with V-belt drives, as shown in the photographs. This provides flood protection for motors, saving in floor space, and allows for reasonable capacity increase.

This portion of the plant is designed to be part of a future storage, refining and blending system. Since refiners and blending chests will replace the beaters, the control panel and main switchboard are located on a gallery overlooking the beater room.

The control panel has a visual flow diagram to simplify the operation and in this diagram liquid level recorders represent each of the stock chests. Control valves represent their respective hydraulic valves in the distribution lines and pilot lights with control switches alongside represent the pumps.

No. 2 Machine Room

The second unit of the expansion program, the double machine room, was started in the fall of 1947 on the site of the warehouse between No. 1 and No. 3 ma-



Something new in continuous Hydrapulper installations, as developed by Alexander Fleck of Ottawa.

Sidney Roofing accepting plaudits

Black-Clawson, Shartle and Dilts join many other well wishers in congratulating Sidney Roofing on the completion of their extensive modernization program.

Also to be congratulated is the Alexander Fleck organization of Ottawa, the suppliers of:

1. Continuous waste paper system—including a 14' Hydrapulper with junk remover and ragger.
2. A 14' Hydrapulper for use on liner.
3. Three propeller agitators.



KOHLER SYSTEM
EQUIPMENT

PRODUCT OF DILTS

Shartle Brothers Machine Co.

Middletown, Ohio

Dilts Machine Works

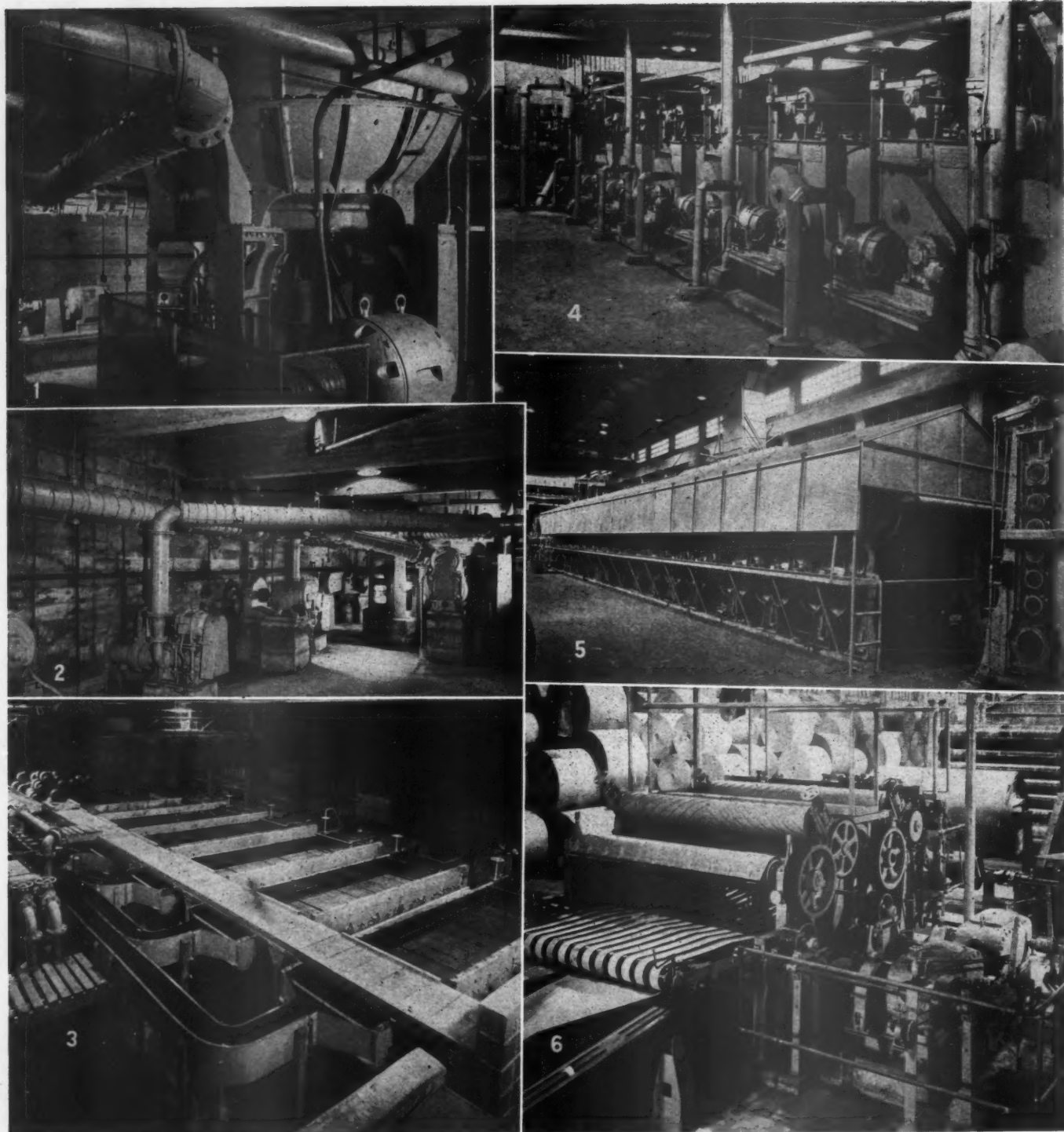
Fulton, New York

Divisions of THE BLACK-CLAWSON COMPANY, HAMILTON, OHIO

Western Sales Office: Mayer Bldg., Portland, Ore.

Associate: Alexander Fleck Limited, Ottawa, Canada

Subsidiary: B-C INTERNATIONAL, LTD., 16 Catherine Place, Victoria, London S.W.1, England



MODERN INSTALLATIONS at Sidney Roofing & Paper Co., Ltd.:

1—Continuous Dilts Hydrapulper, manufactured in Canada by Alexander Fleck, Ltd.

2—Slush stock plant, showing batch Dilts Hydrapulper in right of picture.

3—Flat screen stock distribution showing screens rebuilt by Victoria Machinery Depot, and flumes built by Canadian Sumner Iron Works and Heresited by Industrial Coatings, Ltd.

4—Six-vat wet end, viewed from drive side and showing helper motors with forced air cooling ducts. Built by Vancouver Engineering Works.

5—Paper machine dryers; hood was built by Western Bridge & Steel Fabricators.

6—Duplex cutter and slitter showing drive side; built by Vancouver Engineering Co.

These photographs were taken for PULP & PAPER by Roger Kerkham.

chine rooms. Since the area was not large enough to accommodate the conventional "T" layout for board mills, flat screens and the electrical distribution center were

placed on a mezzanine floor. The building also will accommodate No. 1 machine, to be moved at a future date.

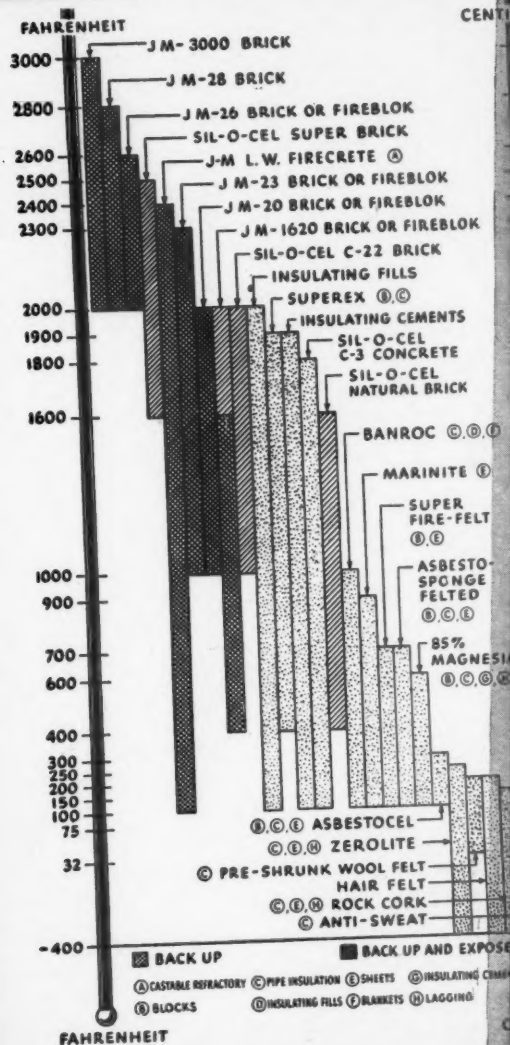
Five machine chests (two for the future

machine) and two for white water are built into the basement at the wet end.

A 10-ton "Provincial" crane operated from the main floor provides service to

Ready
reference
chart...

Johns-Manville THERMAL INSULATIONS



*Yours...
for better
insulation service!*

Now, you can see at a glance the recommended insulation for every temperature range, from minus 400F to plus 3000F.

It's all on this convenient Johns-Manville Thermal Insulation Chart (11½" x 18") available for hanging in your office or on your plant wall.

Each insulation in this group of Johns-Manville products is tailor-made to do a specific type of job best. And, as part of the Johns-Manville Insulation Service, specialists are available to help you with present insulation problems... or with those connected with future plans.

By having these men select and apply Johns-Manville insulations, you will be dealing with men who have grown up in the business. You'll find that it will pay, in the long run, to have these experts help you... because they have to their credit more man-hours of insulation application experience than all other similar types of organizations combined.

For your copy of this chart, just fill in and mail the coupon below.

Johns-Manville
Box 290
New York 16, N. Y.
Please send me copy of Johns-Manville Insulation Chart IN-6D.

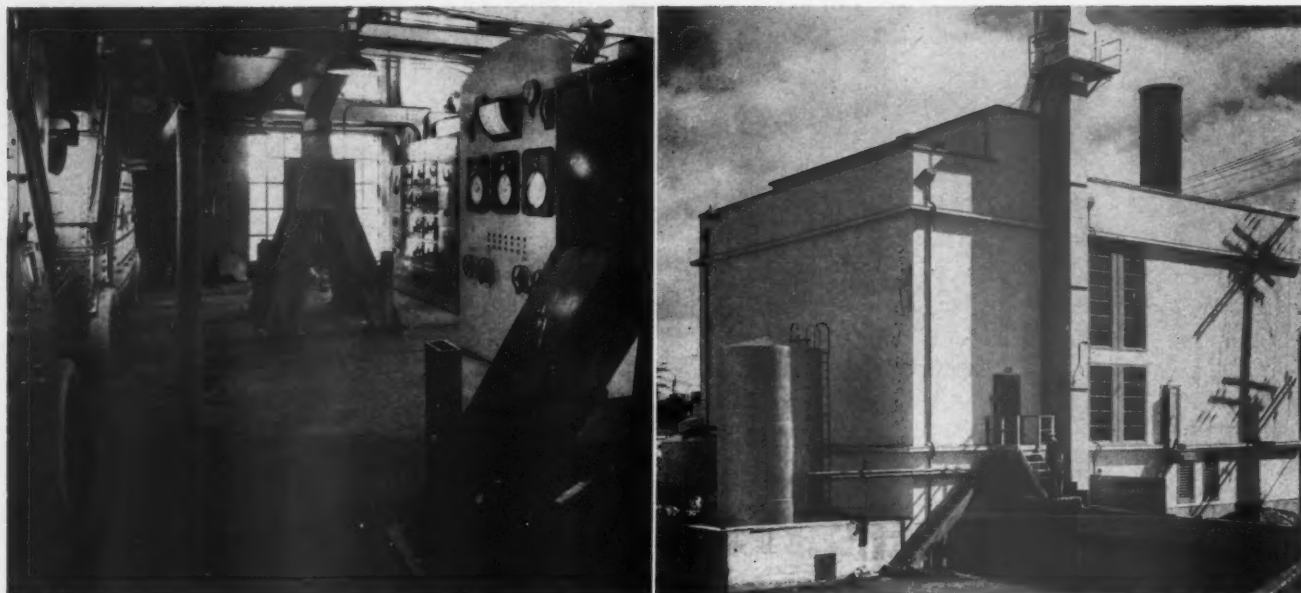
Name _____
Title _____
Company _____
Address _____
City _____ State _____

PP-9

FOR EVERY TEMPERATURE



EVERY



AT VICTORIA BOARD MILL (left), operating floor showing instrument panel and distribution center between two fuel distributors, with boilers at left in picture. Control panel is by Steelweld, Ltd., shows instruments and Yarway remote level indicators. (Right) exterior view of new steam plant at Sidney Roofing & Paper Co., Ltd.

all equipment except the wet end vats, which are located under the mezzanine where a one-ton monorail system extending across the center aisle services vats of the No. 2 machine and can be used for the relocated No. 1 machine.

Stock Preparation and Distribution

Three of the seven beaters are used for No. 2 machine stock, and their gravity flow dump lines are connected one to each of the machine chests.

Stock can be transferred from any chest to any beater, as previously described. The beaters, which run continuously, are used on liner and subliner stocks, also for blending alum and size.

Three supply lines carry the stock from the machine chests through E. D. Jones jordan to the distribution box on the mezzanine, which is fitted with an overflow to provide a constant head at the distribution box gates. The overflow returns to the pump suction of the respective supply lines. Heresite-coated steel flumes carry the stock from the distribution box to the approach flow boxes of the six flat screens, where an underflow gate brings the shives to the surface. Screen rejects are removed by a scraper working on the last four plates of each screen, and deposited in a tailings flume. Rejects are removed and any accepted stock drops to an Ingersoll-Rand Bird Machine-type saveall on the main floor.

Accepted stock from the flat screens is diluted with white water in the discharge flumes and flows to the machine head boxes on the main floor, where entrained air is released. Twelve-inch pipes sloping away from the headboxes carry the stock to flow spreaders located in the basement under their respective vats. The spreaders convert the flow from a circular to a 2"x96" rectangular cross-section at the base of the vats. The remainder

of the channel is incorporated in the vat to deliver the stock at uniform consistency to the sheet formation area of the cylinder mould.

White water from each vat is segregated and recirculated through separate lines. Part is introduced at the distribution box, and the balance at the flat screen discharge flume to regulate consistency. Overflow white water is collected in a common header running under the vats and delivered to the rich white water chest. Fresh water makeup is provided by cylinder showers.

Equipment

Pumps with superimposed motors are used for the three stock supply lines, the six white water recirculating lines and for rich white water from its chest to the savealls. A direct-connected pump is used on the line from the lean white water chest.

E. D. Jones & Sons jordan are used for liner and subliner stocks. A No. 1 Jones jordan with adjustable casing is used on filler stock. The crane has complete access to the jordan for plug removal, etc., without interference with piping.

The distribution box with attached overflow box and the flumes are made of 10-gauge steel lined with heresite.

The distribution box is fitted with 18 gates, so that the desired amounts of the three basic stocks can be discharged to any of the six flat screen flumes and consequently to any of the six machine vats.

Six used knocker type flat screens were reconditioned and the wooden flow boxes were replaced by 10-gauge steel, heresite-lined, combined flow box and discharge flumes. The screen drives were converted to anti-friction brg eccentric type.

The six cylinder machines are designed for counterflow operation and have the

same mould construction used for the thickeners. The all-steel heresite lined vats have a built-in stock channel which terminates in a pond ahead of making board to control stock velocity at the point of sheet emergence.

The flow spreaders are all-steel heresite-lined and have a cross web construction. They are situated at the low point of the stock system, and are therefore fitted with port-type cleanouts.

The all-steel heresite-lined upflow headboxes and the flow channel design throughout the system were based on the critical detention time of the stock—i.e. the time required for fiber bundles to form under laminar flow or at rest.

The 500 G.P.M. Bird Machine Co.-type saveall reclaims stock from the rich white water and discharges to the filler chest. Accepted stock from the rotating shive screen is also reclaimed as previously described, and the screened white water flows by gravity to the lean white water chest; part of the white water is used for showers and the remainder returned to the slush stock plant.

The machine press section consists of a suction roll and three sets of press rolls. The press rolls, standards, hand guides, takeups and felt rolls were the only pieces salvaged from the original machine. All other necessary parts, including the frame, roll loading leverages, auto guides, whippers, etc., were designed by the consultants and made in Victoria and Vancouver.

The reverse travel making felt for the six-cylinder wet end is carried over as the top felt for the suction roll and the first and second presses. It also drives the suction roll. A bottom felt runs over the suction roll and through the first and second presses. The third press, used for smoothing, has a bottom felt only.

The dryer section, consisting of 30 dryer rolls with the necessary frames, were re-



Offices and representatives in 60 cities
in the United States, Europe, Latin America, Africa, and Asia

PULP PAPER

***Domestic
Export
Import***

Today, more than ever, intimate knowledge of market conditions is of great importance. Through our nationwide and worldwide supply sources and outlets, we are in close and constant touch with the market. This enables us to give constructive assistance to mill executives in buying, selling, and exporting pulp and paper.

BULKLEY, DUNTON & CO., INC. • BULKLEY, DUNTON PULP CO., INC. • BULKLEY, DUNTON PAPER CO., S. A.
BULKLEY, DUNTON CELLULOSE EXPORTS, INC. • BULKLEY, DUNTON PAPER (FAR EAST) CO. INC.

In New England — CARTER, RICE & CO. CORPORATION

BULKLEY-DUNTON
ORGANIZATION
295 MADISON AVENUE, NEW YORK 17, N. Y.



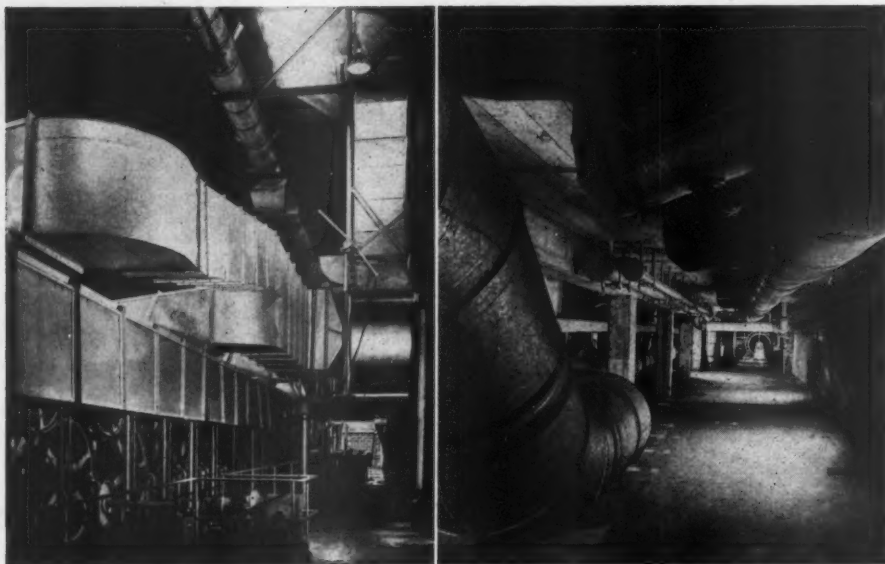


PHOTO AT LEFT shows—Machine room; dryer drive side with air exhaust system. Section of roof ventilation system is above. Each sectional drive unit consists of motor, reducer, differential gearbox and control. SKF bearings are used.

RIGHT—Hot air duct in left of photo, is on the dryer; in background is main motor generator. Above, is drive motor ventilation system.

claimed from the original machine with no changes in design, were thoroughly reconditioned, and defective gears, steam joints, etc., were replaced.

Rolls from the original machine calender stock were reground, their bearings rebabbitted and several new rolls purchased from the Dominion Engineering Co. A spare calender was used for the second stack and its rolls reground.

The two drum reel is driven by a D.C. motor through an air operated duplex clutch; a Horton Mfg. Co. variable speed clutch pulley provides the speed control for sheet tension.

Since most of the production from this board machine will be in sheet form, a duplex slitter and cutter was designed to meet the special requirements and was made by Vancouver Engineering Works. The unit is automatically threaded through to the cutter heads. The slitter drive clutches can be operated from either the front or back side of the machine. The delivery tape speed and the sheet discharge height are adjustable. The knives are driven through two Link-Belt P.I.V. gears.

An automatic sectional drive speed control was designed, having a speed range of from 35 to 200 feet per minute. This machine drive consists of six vat helper motors, one second press helper drive, five automatically controlled units, first press, third press, second dryer, first and second calender and the duplex cutter and slitter. A manually controlled variable speed D.C. motor drives the first dryer section and master lineshaft for the automatically controlled drive units. The reel also is driven by a variable speed motor and is manually controlled. Each sectional drive unit, as shown in the photograph, consists of the motor, reducer, differential gear box and control. Each unit is equipped with SKF Industries bearings and the connecting line shaft is

carried on SKF self-aligning ball bearing hollow blocks.

All machine motors are ventilated from a forced fresh air duct passing beneath the floor with leads to each unit.

Heat from the machine hood exhaust is recovered through a heat exchanger and is used to maintain a circulation of warm air throughout the machine room to prevent condensation. A Midwest-Fulton condensate removal system is provided.

Boiler Steam Plant

The addition of No. 2 machine required additional process steam beyond the capacity of the existing H.R.T. Steam Plant. Space and time limitations prompted the purchase of two new Yarrow-type marine boilers from War Assets Corp., and these were installed on a new site to generate 60,000 pounds per hour.

Two types of fuel are used to fire this setting, which can be used independently or in conjunction with each other depending on prevailing price and supply. Wood refuse is burned in Dutch ovens in front of the boilers and oil burned from the rear. A wood refuse bunker is built into the boiler room building proper, extending from the second floor to the roof and running across the full width of the building. This arrangement brings the bunker close enough to the ovens for gravity feeding and allows space on the ground floor for boiler room auxiliaries and oven cleaning, thus minimizing the overall floor area.

Wood refuse is dumped into a hopper from trucks and carried to the top of the bunker by an elevator. The elevator discharge can be divided between a storage belt conveyor and a boiler feed belt conveyor, the latter being controlled by the fireman to suit firing requirements. Fuel on the storage conveyor is discharged to the bunker by means of ploughs. The

bunker is filled during daylight hours and emptied during night hours by a drag chain recovery conveyor which discharges into the elevator hopper. The boiler feed conveyor discharges into two chutes, the amount in each being adjustable by the fireman. Each chute leads to a fuel distributor resting on the oven top plates and divides the flow into the four feed openings in each oven. The distributor is driven at 5 RPM by ½ H.P. motor through a friction drive. Each of the four feed chutes are fitted with a tripper to effect an air seal.

The Dutch ovens, designed and installed by Drexel Refractories, Limited of Vancouver in conjunction with the Bigelow-Liptak Corp., are of the grateless, suspended wall type. Each oven has an inside area of 121 square feet and is divided into two cells by an air lane, with ports, through the centre of the fuel pile. Primary air is admitted underneath the combustion chamber floor and divided into three air lanes, with ports, by the bridge-wall. Secondary, or overfire air, is admitted through two openings in the top of the ovens from the air passage underneath the floor of the combustion space.

One forced draft fan and one induced draft fan handle air and gases for both boilers. Isolation and regulation is achieved by dampers controlled from the oil firing platform.

To reduce fly-ash hazards a skimmer damper is installed in the induced draft fan discharge which circulates a percentage of the flue gases through a cyclone ash collector. Cleaned gases are returned to the fan suction while a fly ash blower draws the fly ash from the bottom of the collector and discharges it back to the ovens.

Other equipment includes a 350-foot head Allis-Chalmers boiler feed pump driven by a Coppus turbine, the exhaust steam being used for feedwater heating. A standby feed pump is driven by an electric motor. Feed regulators are Copes type B-1 with type R thermostat supplied by C. C. Moore & Co. Engineers Inc. A duplex electric pump and heater set draws oil from the storage tank and discharges it to the burner circulating headers.

Boiler control instruments include three draft gauges and a steam flow-air flow meter for each boiler, and total pressure recorder. Two Yarrow remote level indicators and an electric clock are also mounted on the panel.

Company Background

Sidney Roofing & Paper Co., Ltd., one of Victoria's major industries, has been in operation for more than 30 years and has long been regarded as one of the most diversified producers of its kind in Western Canada.

The company was founded during World War I by Hon. R. W. Mayhew, prominent in Canadian politics, who is president. His son, R. L. Mayhew, is vice-president. J. A. Craig is general manager.

Among members of the organization active in the expansion program were: A. J. Saunders, resident engineer; C. E.

★ It was a privilege to be chosen as the Consulting Engineers for all phases of The Sidney Roofing and Paper Company's recent expansion program at Victoria, B. C.

COLUMBIA MILL DEVELOPMENT CO., LTD.

CONSULTING ENGINEERS

SPECIALIZING IN

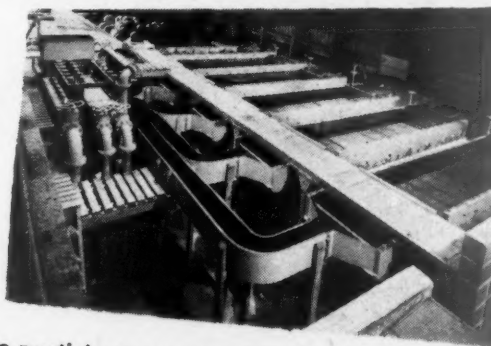
**BOARD MILLS • PULP & PAPER MILLS
STEAM & ELECTRIC POWER**

HOLDEN BUILDING

VANCOUVER, B. C.

16 EAST HASTINGS STREET

**congratulations
to
Sidney roofing..**



...we are proud indeed that our company was chosen to participate in the modernization program recently undertaken by this company.

All flumes shown in this illustration were Heresite-coated in our own plant... just one of the answers we are providing to corrosion problems faced by all types of industries.

We'd be pleased to discuss your corrosion problem with you.



INDUSTRIAL COATINGS LTD.

237 E. Fourth Ave.

FA 8204

Vancouver, B. C.

September, 1949

93

Craig, plant superintendent; W. Carey, paper mill superintendent; W. B. Moffatt, plant engineer; A. E. Hayward, mechanical superintendent; C. Y. Spratt, electrical superintendent; H. Dayton, engineer, steam plant superintendent.

Columbia Mill Development Men Formed Company in 1946

Columbia Mill Development Co., Ltd., consulting engineers of Vancouver, B. C., whose major role in design and engineering of the modernization and expansion of Sidney Roofing & Paper Co., Ltd., is described in this article.

is now conducting negotiations with a view to opening a branch office in the United States.

S. C. Rooney, president of the firm, and J. R. Dunbar, vice president, formed their company in 1946 convinced that expansion of the forest industries in the Pacific Northwest would present wide scope for their services.

From 1936 to 1942 Mr. Rooney was with the B. C. Pulp & Paper Co., latterly in the engineering department. During 1942-44 he was chief draughtsman for Aluminum Co. of Canada for its expansion at Kingston, Ont. After war service with the Canadian navy he joined Waterous, Ltd., Brantford, Ont., in paper machinery design. He went to the west coast to

assist in design of the Bloedel, Stewart & Welch kraft mill at Port Alberni, B. C., and then joined Mr. Dunbar in their consulting firm.

Mr. Dunbar has been known for years as inventor of the Dunbar mechanical drive for flat screens and the recently patented Dunbar hydraulic drive. He invented the new Dunbar patented chipper which is being manufactured in Canada by Sherbrooke Machineries Ltd., and in the U. S. by the Improved Paper Machinery Corp., and is co-inventor of the ring-type barker introduced at the Bloedel pulp mill. For 20 years Mr. Dunbar was with the Fraser Companies and was mechanical Superintendent for the company's operations when he left the organization to go west.

EQUIPMENT FOR MODERNIZATION AND EXPANSION OF SIDNEY ROOFING & PAPER CO.

Waste Paper Preparation and Storage Plant:

Wood stove pipe, Pacific Coast Pipe Co., Vancouver, B. C.
Stock and whitewater pumps, Allis-Chalmers Co., Milwaukee.
Two Hydrapulpers, Alexander Fleck, Ltd., Ottawa, Ont.—Black-Clawson Co., Hamilton, O.
Stock chest agitators, Wm. Kennedy & Sons, Owen Sound, Ont.
Stock chest agitator drives, Canadian Sumner Iron Works, Vancouver.
All-steel riffler construction, Canadian Sumner Iron Works, Vancouver.
Baked resin coatings for pipes, Industrial Coatings, Ltd., Vancouver.
Waste paper thickeners, Vancouver Engineering Works, Vancouver.

No. 2 Paper Machine Room:

Paper machine dryer frames, Pusey & Jones Corp., Wilmington, Del.
Flat Screen conversion, Victoria Machinery Depot, Victoria, B. C.
Bird saveall, Canadian Ingersoll-Rand Co., Ltd., Montreal.—Bird Machine Co., So. Walpole, Mass.
Stock and whitewater pumps, Canadian Allis-Chalmers Co., Vancouver.
Stock chest agitators, Alexander Fleck, Ltd., Ottawa.—Black-Clawson Co., Hamilton, O.
Stock chest agitator drives, Canadian Sumner Iron Works, Ltd., Vancouver.
Baked resin coatings on pipe and equipment, Industrial Coatings, Ltd., Vancouver.
Machine room ductwork and heat exchanger, Pacific Sheet Metal Co., Victoria.
Machine hood, Western Bridge & Steel Fabricators, Vancouver.
Stock distribution system, Canadian Sumner Iron Works, Vancouver.
6-cylinder vat wet end, Vancouver Engineering Works, Vancouver.
Press modernization, Vancouver Engineering Works, Vancouver.
Duplex cutter and splitter, Vancouver Engineering Works, Vancouver.
Duplex reel, Canadian Sumner Iron Works, Vancouver.
Machine control gear boxes, Richards Engineering Co., Vancouver.
Fans, U. S. Air Conditioning Co., Minneapolis.
Meters and instruments, Foxboro-Peacock Bros. and The Bristol Co., Montreal.
Paper machine speed control, Electric Power Equipment, Vancouver.
Vacuum pumps, General Equipment Co., Vancouver.

Rosenblad To Become United States Citizen

Kurt Rosenblad, head of Rosenblad Corp. of Stockholm, which developed an evaporator for calcium base sulfite systems (and a spiral heat exchanger), will become an American citizen. He has migrated to the U. S. with his wife and five children, and launches the newly formed Rosenblad Corp. of the U. S. in the RKO Bldg., New York. Gus Hellstrom of Montreal continues as his representative in Canada.

For the testing of the Rosenblad one-effect evaporator for calcium base sulfite recovery system, at Appleton, Wis., previously reported in this magazine, Nils Eklow, 25-year old student at the Royal Institute of Technology, Stockholm, has been assigned to the experimental project. Tests are to be made at the Interlake mill of Consolidated Water Power & Paper Co. in Appleton. This project is being sponsored by a group of Wisconsin and Michigan mills.

Mr. Eklow represents the Rosenblad Corp. of New York and Stockholm. U. S. rights to the evaporator have been sold

to General American Transportation Corp., New York. It is said that there should be less scaling in this evaporator than has occurred in past experiments with recovery in calcium base sulfite pulping. But conclusive tests are yet to be run. Economically, the Rosenblad system has found considerable favor in Sweden for energy and chemical recovery because of the high cost of coal in that country.

Emil Creutz, who is president of American Heat Reclaiming Corp., is vice president of Rosenblad Corp. of U. S.

Condensate removal system, Peacock Brothers, Montreal.—Midwest-Fulton Co., Dayton, O.

Machine room crane, Engineering & Machinery, Ltd., Vancouver.

Jordans, E. D. Jones & Sons, Pittsfield, Mass.

Radicon reducers, David Brown & Son (Hudd), Huddersfield, England (Gordon Russell, Ltd.)

Electrical and Paper Machine Drive:

Transformers, lightning arrestors, etc., Canadian General Electric Co., Toronto.
Motors, breakers, panels, etc., Canadian Westinghouse Co., Hamilton, Ont.
Oil circuit breakers, disconnecting switches, motors, English Electric Co., Toronto.
Main control panel, motors, etc., Electric Power, Ltd., Vancouver, B. C.
Substation instrument panel, Electric Panel Mfg., Ltd., Vancouver, B. C.
Crane motors, Bepco Canada, Limited, Montreal.
Gear motors, variable speed pulleys, Crossman Machinery Co., Ltd., and Reliance Electric and Mfg. Co., Cleveland.
Flexible couplings, chain cases, Renold-Coventry, Ltd., Vancouver.
Couplings for paper machine drive, Link-Belt, Ltd., Vancouver and Chicago.
Ball bearing pillow blocks, SKF Industries, Philadelphia.
Outdoor steel structure substation, fabricated bases for drive units, etc., Western Bridge & Steel Fabricators, Vancouver.
Substation—Indoor steel structure; steam plant—boiler control panel, Steelweld Limited, Vancouver.
Liquid and steam recorders, The Bristol Co., and Foxboro-Peacock Bros., Montreal.

New Steam Plant:

Boilers, Vancouver Iron Works, Ltd., Vancouver.
Dutch ovens and refractory, F. W. Drexel Co., Ltd., Vancouver.
Platform structural steel, Western Bridge & Steel Fabricators, Vancouver.
Bucket elevator and conveyors, C. W. Brockley, Vancouver.
Feedwater regulators, C. C. Moore & Co. Engineers, Inc., Vancouver and Seattle.

THESE LUKENS STEEL CO. men have taken on new responsibilities:

HARRY A. FOHL (left) became Chief Engineer at the Lukens plant at Coatsville, Pa., according to General Works Mgr. Lester M. Curtis.

SAMUEL WIT (right) is new District Mgr. of Sales in Chicago, according to V. P. for Sales, J. Frederic Wiesse. Mr. Wit, graduate of Drexel Institute, has been with the Lukens Division of Lukens since 1937.



McLaurin-Jones Buys Grand Rapids Plant

McLaurin-Jones Co., paper converters of gummed, coated and specialty papers, Brookfield, Mass., has purchased the Grand River Paper Corp., Grand Rapids, Mich., on July 16, according to John MacLaurin, president of McLaurin-Jones.

Grand River manufactures Tanglefoot gummed products, and this famous trade name now passes to the new owners.

The Grand River converter plant will be operated as McLaurin-Jones Co., Grand Rapids Division. It is planned to continue the same personnel. The new management will be represented in Grand Rapids by William C. MacLaurin.

Paper Product Pointers FROM CYANAMID



Re: Wider Markets for Paper...

ACCOBRITE

Newest
...Brightest
of the Rosin Sizes

NOW AVAILABLE

IN LIQUID FORM



ALWAX** Sizes • WAXINE* Sizes • Rosin Size • PAREZ* Resins
Synthetic Resins • Casein • Alum • Sulfonated Oils • Fillers
Defoamers • Soda Ash • Caustic Soda • Salt Cake • Acids • Clays
AEROSOL* Wetting Agents • CAL MICRO** (Calcium Carbonate)
AZITE** Liquifier 900 and other Paper Chemicals.

*® **Trade-Mark

Sales Offices: Boston, Mass.; Philadelphia, Pa.; Pittsburgh, Pa.; Baltimore, Md.; Charlotte, N. C.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; Detroit, Mich.; Kalamazoo, Mich.; St. Louis, Mo.; Los Angeles, Calif.; San Francisco, Calif.; Seattle, Wash. In Canada: Dillons Chemical Co., Ltd., Montreal and Toronto.

The ACCOBRITE** Rosin Sizes are unsurpassed for imparting high brightness value to sized papers — brightness that is retained in the paper even after aging.

ACCOBRITE Rosin Sizes are characterized by their low foaming properties. This may be reflected both as a definite savings in cost of foam killers and as an improved sheet formation — fewer foam spot complaints — fewer machine breaks.

ACCOBRITE Rosin Sizes are available in various solids concentrations and a wide range of free rosin contents.

ACCOBRITE Rosin Sizes are noted for their absolute purity and high quality. This new *improved* rosin size, with its outstanding machine performance, will please you with its excellent waterproofing, ink resistance, and general sizing results.

Consult your Cyanamid representative for full information about new ACCOBRITE Rosin Sizes.



AMERICAN *Cyanamid* COMPANY

INDUSTRIAL CHEMICALS DIVISION

30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

Personals

MIDDLE WEST

ERNST E. MAHLER, executive vice president of Kimberly-Clark Corp., Neenah, Wis., has returned from a trip to Europe with Mrs. Mahler. He toured Germany where he had been a government envoy on reparations after the war while she visited Paris and Zurich, and they were together in England.

GILBERT STEVENS has been appointed sales and service representative of the paper sales division of Minnesota & Ontario Paper Co. **M. S. WUNDERLICH**, director of research, has been named to Mando's operating committee, an advisory board to the president regarding operating policies. **ROBYN CAMPBELL** becomes assistant director of research in charge of pulp and paper. **G. H. MCGREGOR** is named supervisor of pulp, paper and by-products research at the International Falls, Minn., Laboratory. Mr. Campbell was formerly assistant paper sales manager. Mr. McGregor's promotion broadens his responsibility to include paper research.

J. H. FERGUSON has been named district manager of the Akron, O., branch office of The Bristol Company, according to H. E. Beane, general sales manager. A graduate from Pennsylvania State College, Mr. Ferguson joined Bristol in 1923 as a sales engineer.

RICHARD NELLER, of the industrial engineering department, Kimberly-Clark Corp., Neenah, Wis., gave a talk before Appleton's Rotary Club on "Principles of Business Organization."

JOHN L. RICHEY, secretary-treasurer of the Paper & Twine Association, met with paper merchants in Toledo, Cleveland, Columbus, Indianapolis, Louisville, Milwaukee, Grand Rapids and Chicago during a tour of the Midwest in July.

GLENN MCKNIGHT, formerly with Time Inc., coated paper development work, is now with Champion Paper & Fibre Co. at Hamilton, O.

WILLIAM R. WORBOYS, Pacific Coast representative for Tri-Clover Machine Co. of Kenosha, Wis., was a business visitor recently at the Tri-Clover plant. Worboys' west coast address is 106 Seal Rock Drive, San Francisco.

GRACE BELKNAP, first woman employed by Sutherland Paper Co., Kalamazoo, hired by the Sutherland brothers back in 1917, and employee in spoilage department in recent years, has retired.

EDWARD J. BURNELL, vice president and general sales manager, and director, of Link-Belt Co., died at his home in Winnetka, Ill., July 22, after an illness of several months.



WILLIAM F. HATHAWAY, KVP Co., Parchment, Mich., who has been elected Chairman of the Michigan Superintendents.

WILLIAM H. SCHLAFGE, appointed General Supt., International Falls, Minn., Div., Minnesota & Ontario Paper Co. He succeeds E. L. McCormack, who becomes Special Asst. and Consultant to Res. Mgr. T. R. Stein. Mr. Schlafge is graduate of U. of Minnesota.



PHILIP NETHERCUT has been appointed chemist at the Watervliet Paper Co., Watervliet, Mich. He is from the Institute of Paper Chemistry at Appleton.

LOUIS MEYER, superintendent of the Port Edwards, Wis., paper mill of Neekoosa-Edwards Paper Co., since 1941, and a veteran of 52 years in paper mills from Salem, Ore., to Menasha and Janesville, Wis., and Escanaba, Mich., has retired. He started with Nepco in 1903 at the age of 19 and after "seeing the world" of paper mills, went back in 1923.

JAMES H. FOXGROVER, ensign, son of Lee Foxgrover of Appleton, and cousin of James A. Foxgrover, general sales mgr., Hercules Powder Co., Kalamazoo, took off and landed his SNJ Texas trainer six successive times on an aircraft carrier in the Gulf of Mexico to qualify for flight from carriers. He is stationed at Pensacola. While attending Western Michigan College in Kalamazoo, he spent much of his time with Jim Foxgrover of Hercules.

J. T. DOERFLER'S daughter, Lois, has been honored by appointment by the governing board to the position of city librarian, in Kimberly, Wis., where her father is manager of the Kimberly-Clark mill. Miss Doerfler is a graduate of Marquette University where she majored in science and did library work and she has been a high school teacher.

New Equipment for Western Michigan School

A complete new \$3,200 sheet (8x8) testing machine has been presented the new Pulp and Paper Technology School of Western Michigan College at Kalamazoo, Mich., by the Noble and Wood Machine Co. of Hoosick Falls, N. Y. H. N. Weir, Noble and Wood president, made the presentation through C. B. ("Baldy") Smith, Midwest representative.

Modern equipment is the desired goal for use of this fall's students when they begin classes in Western's new McCracken Hall which houses the college's chemistry and physics departments.



ANDRE SALMON (left) of Papeteries Mounoury, paper merchants of Paris, who visited five Kalamazoo mills and six other Michigan, Minnesota and Indiana mills during a seven months' stay in the United States. He was here, he said, not for the purpose of export or import but rather for "my own instruction." While in New York he was guest of A. George Lutz, paper merchant at 280 Madison Ave. **ARTHUR E. MAY** (right) Vice President of Central States Engineering, Inc., of Appleton, Wis., has been appointed Assistant to Chief Engineer at The Moore & White Co., Philadelphia manufacturers of paper-making machinery. Prior to connection with the Appleton firm, Mr. May was with the Thilmany Pulp and Paper Co., Kaukauna, Wis. He is native of Green Bay and graduate of University of Wisconsin Engineering School.

To Survey Kalamazoo Mill for St. Regis

St. Regis Paper Co. has engaged the engineering firm of Beecher & Sandwell, Seattle and Vancouver, B. C., to make a survey of its seven-machine paper mill at Kalamazoo, Mich., and recommend a plan of modernization.

The same firm is working on a similar project for the St. Regis sulfite and paper mills at Deferiet, N. Y.

St. Regis Takes Over Another Kalamazoo Plant

St. Regis Paper Co. has taken over the coating plant at the end of Alcott street and adjacent to its present mills in Kalamazoo.

The coating plant was owned and operated by Time-Life under direction of Vice President Nicholas L. Wallace, and is the last of the magazines' extensive paper industry properties which have been sold to St. Regis. During wartime paper shortages, Time, Inc. became owners of several mills.

St. Regis will transform this plant into a unit of its Panelyte plastic division and will move the coating operations to the Bucksport, Me., mill acquired from Time.

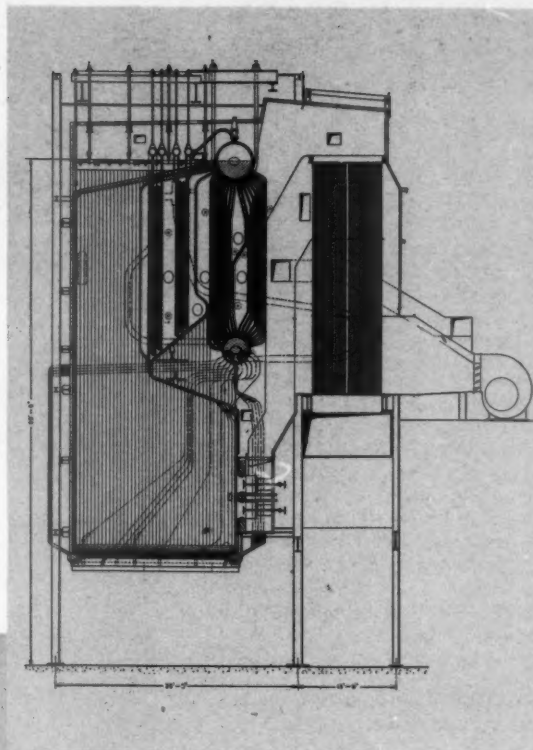
Pension Benefits for Gardner Board Employees

All employees of The Gardner Board and Carton Co. with Middletown and Cincinnati, O., mills between 30 and 65 years of age with at least five years of service are signing up for a new retirement plan.

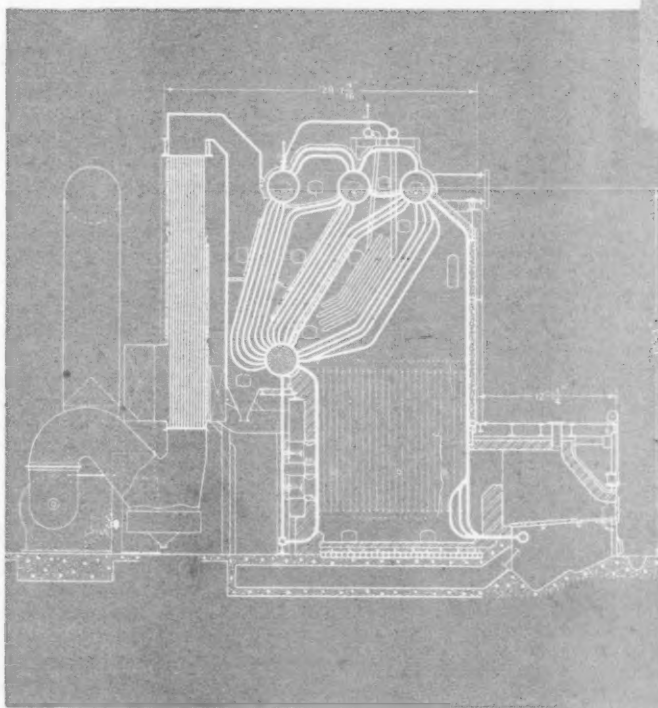
Employees will contribute 1.6% of their base pay up to \$250 monthly and 3.2% of earnings over that amount. The company will pay approximately twice as much.

In addition, the Gardner company announced its intention of buying pension benefits for old service employees, the full cost to be paid by the company. Special retirement benefits are also being arranged for employees who are 65 years of age and older.

A GOOD SOURCE OF STEAM FOR PULP AND PAPER MILLS

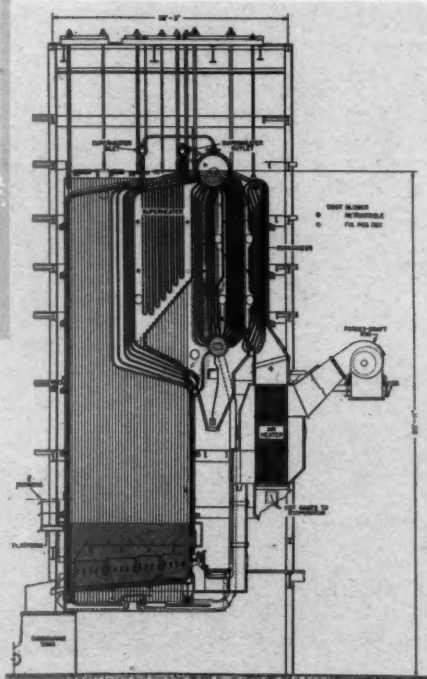


B&W Two-Drum Stirling Boiler, oil- and gas-fired. Also available in four-drum and integral-furnace types.



B&W Four-Drum Stirling Boiler with special bark furnace. Also available in two-drum types.

B&W Black Liquor Recovery Unit.



THE BABCOCK & WILCOX CO.
General Offices: 85 Liberty St., New York 6, N. Y.
Works: Alliance and Barberton, O., Augusta, Ga.

September, 1949

P45

97

Personals

NORTHEAST

L. KEVILLE LARSON, sales manager, Pulp Division of Weyerhaeuser Timber Co., New York, was caught in his small sloop during the recent freak Sunday squall on Long Island Sound. Accompanied by his wife and another non-sailor, Mr. Larson shortened canvas and ran before the wind to safety. Many a sailing craft was not so fortunate that day.

GEORGE E. DYKE, president of Robert Gair; **GUNNAR NICHOLSON**, vice president of Union Bag; and **JOHN B. CALKIN**, chief of the Department of Industrial Cooperation at the University of Maine, were all encountered separately by an associate editor one early morning recently at the Commodore Hotel—proving, at least, that the national influx of Lions on convention can't stop the pulp and paper industry.

ALAN GOLDSMITH, vice-president in charge of board for Mead Corp., New York, was a visitor in Dayton, O., recently. As it is to many a New York Mead man, Dayton is an old stamping ground for Mr. Goldsmith.

ALLEN L. SPAFFORD is appointed field salesman in the Hooker Electrochemical Co. upper New York State and western Pennsylvania. Mr. Spafford has been with Hooker two years as process study engineer.

HAROLD SOTHERN, 230 Park Avenue, New York, U. S. representative for the Los Cerritos Pulp and Paper Company, near Guatemala City, was visiting the mill in July when the Guatemalan revolution broke out. No damage was suffered by the mill which is owned by **MINOR KEILHAUER**, young Central American industrialist.

ALBERT G. NAUDAIN has been appointed assistant to the vice-president in charge of sales of Union Bag & Paper Co., New York.

VERNON TIPKA, engineer with the Newsprint Service Bureau, New York, recently made a tour of the big high speed newsprint mills of Quebec and the Maritime Provinces of Canada.

IRVING A. BERNDT, vice president and controller of Sprout-Waldron & Co., Muncie, Pa., died June 30.

JOHN CHANDLER, The Bristol Co., was a visitor in New York and Waterbury, Conn., recently on company business.

F. H. Eldridge Dies

Francis H. Eldridge, president of F. C. Huyck & Co., of Albany, N. Y., died suddenly Aug. 4 at his home at Rensselaer, N. Y. He was 44 years old.

Heads New Coating Division for Racquette River

Robert K. Nimmo, formerly president of Northeast Paper Converters of Pawtucket, R. I., has joined Racquette River Paper Co., Potsdam, N. Y., as general manager of the company's new coating division. Mr. Nimmo, born in Scotland, came to U. S. in 1924, and entered paper converting and box-making.

Racquette River Paper Co., for 20 years prominent in the field of decorative papers, now has in operation new coating plant, where it will further convert papers and expand present times.

KENNETH YOUNGCHILD, American Cyanamid Co., New York, has been painting his Long Island home right in the middle of the eastern heat. However, he admits to the use of a spray gun.



ALAN B. HELFFRICH (left), ex-St. Regis Sales Mgr. and President of the Salesmen's Association, who has formed his own sales company, Alan B. Helffrich Co., 369 Lexington Ave., New York City. He has been active in this industry for 25 years and is a charter member of the Salesmen's Assoc.



VERNON L. TIPKA (right), engineer with Newsprint Service Bureau, New York City, who recently toured the big high speed newsprint mills of Quebec and the Maritime Provinces of Canada.

CHARLES W. MARKUS, who has just retired after 41 years as a purchasing agent for Eastman Kodak Co., Rochester, N. Y.

EDWARD H. PETRICK, who has been in charge of the technical service and development department of the Covington, Va., mill of West Virginia Pulp and Paper Co., joins the company's New York sales force as of August 15. Mr. Petrick work on technical aspects of producing container board at Covington and will be in charge of board sales. He joined the company as chemical engineer in the recovery plant at Covington in 1937, following graduation from University of Pittsburgh. After serving as foreman and engineer in various departments, he entered research two years ago.

WARREN CHILSON, formerly chief of development for the Northern Paper Mills, Green Bay, Wis., has been appointed sales manager for Curlator Co., Rochester, N. Y. This is the company making the curulating machine undergoing tests in board mills of Price Bros. in Canada.

Record Award of \$5,000 Won By Kodak Employee

Bernard H. Holman, employe in Eastman Kodak Co.'s paper mill, Rochester, N. Y., since 1932, has collected \$5,000 for a suggestion. This is the largest award ever made under the Kodak Suggestion System for an idea.

Employees collected \$96,000 for suggestions in the first half of 1949.

Half the money for Mr. Holman, \$2500, went to him in 1948 when he made his suggestion, which concerned a change in the solution used in an electroplating silver recovery process, making possible an increased output.

Superintendents Plan Fun At Poland Springs

The superintendents have taken a sort of an annual "lien" on Poland Springs resort in Maine and they must like it—for the Northeastern division is going back there again this month for their fall meeting, Sept. 22-24.

They are going mostly for fun, outdoors and in, with only about two hours of the three days set aside for papers and a formal discussion of papermakers' problems. Leon Smith, of Downingtown Mfg. Co., will discuss versatility in Four-drainers, and Bruno Prevost of Emerson Mfg. Co., talks on jordan controls. Of course, there will be a lot of paper "made" in "bullfests" up in the rooms.

Regular golf, barnyard golf, bridge tournaments, softball, horseshoes and dancing, and a variety night, are other events.

JAMES H. SWEET has resigned as vice president in charge of sales and advertising of American Writing Paper Corp., Holyoke, to become vice president and manager of Keith Paper Co., Turners Falls, Mass. Succeeding him at American Writing is **JOHN G. McNAUGHT**.

ALAN B. HELFFRICH, formerly sales manager for St. Regis Paper Co., New York City, has formed his own paper sales company with headquarters at 369 Lexington Ave., New York 17, under the name of the Alan B. Helffrich Co. Mr. Helffrich has had the plan in mind for many years. He is president of the Salesmen's Association of the Paper Industry.

WARREN C. SHAW of Pittsfield, Mass., a sales engineer for E. D. Jones & Sons Co., died suddenly at Green Bay, Wis., July 19. Mr. Shaw was born in Pittsfield, Mass., in 1907. He was connected with E. D. Jones & Sons for 15 years and had covered the middle west for the past five years. Survivors are his widow, Mary, one daughter, Marilyn, and a brother, Harvey B. Shaw. Burial was in Pittsfield.

KENNETH BOWERS, Glen Falls Laboratory, Glenn Falls, N. Y., brought his family to New York in July. He sent them sight-seeing and bent his own efforts on matters connected with his paper glossometer and his pulp brightness tester.

Wanted:

Fastness to water bleeding

Found:

Du Pont Dyes



Pontamine* Fast Yellow BBL Conc. 125%
Pontamine* Fast Orange MRL Conc. 125%
Pontamine* Fast Scarlet 4BS Conc. 150%
Pontamine* Brown D3GN Conc. 125%
Pontamine* Orange R Conc.
Du Pont Purpurine 4B Conc.
Pontamine* Fast Blue 4GL Conc. 150%
Pontamine* Fast Blue RRL Conc. 175%
Pontamine* Deep Blue BH Conc.
Pontamine* Black E Double

Selected Basic Dyes on Unbleached Pulp

Careful selection of these dyes, and at times the use of mordants such as Du Pont Mordant DP and BS will give you specialty papers with colors which will not run or stain other items.

Our Technical Staff is always glad to help you find the right dyes to meet your specific requirements. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98, Delaware.

*REG. U. S. PAT. OFF.

Du Pont Dyestuffs



BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

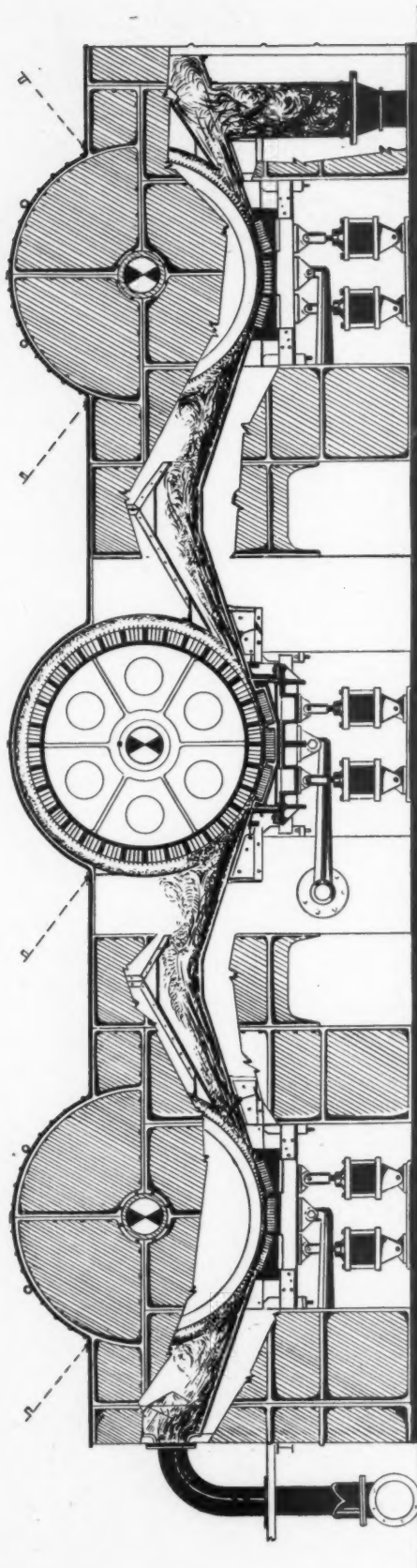


ANNOUNCING

MULTI-ROLL **CONTROLLED FLOW** **VICTORY BEATER**

CONTINUOUS PRODUCTION with BATCH EFFICIENCY

HIGH CAPACITY - LOW POWER PER TON



INCORPORATING "CONTROLLED FLOW" - HYDRAULICALLY CONTROLLED BEDPLATES - MAXIMUM INCH CUTS, ETC. - ALL

FEATURES OF THE BATCH VICTORY BEATER WITH ADDED IMPROVEMENTS IN CIRCULATION AND TREATMENT CONTROL.

Write for Folder PP949

THE NOBLE & WOOD MACHINE CO.

PULP AND PAPER MILL MACHINERY

HOOSICK FALLS, NEW YORK, U.S.A.

Personals

CANADA

HENRY J. OSTROWSKI has left Ocean Falls, B. C., where he was Pacific Mills' technical director, and has moved to 89 Blake St., Barrie, Ont., and is planning some activity in the industry in eastern Canada, possibly based in Toronto, but his actual future is undecided.

KEITH EADIE, formerly of the Iroquois Falls, Ont., mill of Abitibi Power & Paper Co. and Dominion Engineering Co., has joined the staff of Bloedel, Stewart & Welch's kraft mill in Port Alberni, B. C., as mechanical superintendent.

R. M. BROWN, instrumentation engineer with Stadler, Hurter & Co., Montreal, has been appointed chairman of the instrumentation committee of the technical section, CPPA.

VERN MAHONEY has been named general sales manager of Dixie Cup Co., Ltd. (Canada). Mr. Mahoney has assumed his new duties at the recently completed Dixie Cup plant at Brampton, Ont.

T. B. JACKSON, vice-president of Pacific Mills, Ltd., Vancouver and Ocean Falls, B. C., and manager of Northern Pulpwood, Ltd., has been elected president of the British Columbia branch, Canadian Forestry Association, succeeding **R. S. LAIRD**, general sales manager, Bloedel, Stewart & Welch, Ltd., Vancouver.

SIGVALD HELENIUS, chemist with the Finnish kraft pulp manufacturing organization, W. Rosenglow & Co., of Bjorneborg, has been visiting eastern Canadian pulp mills. His father, **AKSEL HELENIUS**, owns the importing firm of O. Y. **ARTURUS**, representatives of Union Screen Plate Co.

TOM AIKEN, technical supervisor for Sorg Pulp Co., Port Mellon, B. C., has resigned from that post. He was formerly with the Riverbend and Jonquere mills of Price Bros. & Co. in Quebec.

D. G. STENSTROM, west coast representative, Columbia Cellulose Co., spent July at Port Edward, B. C., site of the company's alpha pulp mill now under construction.

LAWRENCE KILLAM, Jr., sales manager, B. C. Pulp & Paper Co., Vancouver, B. C., has returned from a business trip to Europe.

NORMAN TERRY, treasurer of Canadian Sumner Iron Works, Vancouver, B. C., has been elected first vice-president of the Society of Industrial and Cost Accountants.

SIR KEITH MURDOCH has retired as chairman of directors of Australian Newsprint Mills Pty., Ltd., Boyer, Tasmania, due to ill health.



PAUL E. COOPER (right), President, Pacific Mills, Ltd., congratulates **WALTER COLLINGS**, Paper Machine Millwright at Ocean Falls, B. C., for winning \$681 for suggestion to use the flat box grinder to grind creping blades. The company's labor-management committee decided Mr. Collings' idea would effect immediate saving of \$3,400. In foreground, **HAROLD ZELLERBACH**, President, Zellerbach Paper Co. and member of Executive Board, Crown Zellerbach Corp.

H. R. MacMILLAN, president of Nanaimo Sulphate Pulp Ltd., and associated lumber enterprises, was host in August to **FREDERICK WEYERHAEUSER**, president of Weyerhaeuser Timber Co.; **HAROLD S. FOLEY**, president of Powell River Co., and **PRENTICE BLOEDEL**, president of Bloedel, Stewart & Welch, on his cruiser Marijean. The party went to Rivers Inlet for a brief fishing vacation.

ALFRED W. GRAY, formerly general manager and managing director of Tailor & Cutter in London, England, and latterly associated with the North of Ireland Paper Co., has joined the sales organization of Abitibi in Toronto.

A. J. HEDLEY, wood superintendent, Australian Paper Manufacturers, Ltd., spent several days in British Columbia and the Pacific Northwest states in July visiting mills and logging camps. Mr. Hedley told **PULP & PAPER** that he was particularly interested in new methods being developed for the hydraulic barking. He feels that their adaptation to Australian conditions would be feasible.

DR. RUDOLF A. V. RAFF, formerly of the research staff, Howard Smith Paper Mills, Cornwall, Ont., has resigned to become associated with the Mellon Institute.

ERIC S. RICE has joined the technical staff of Bathurst Power & Paper Co. at Bathurst, N. B. He was formerly a member of the Consolidated Paper Corp. staff at Grand Mere, Que.

R. E. SIMKINS, until recently with the KVP Co. at Espanola, Ont., has joined the Nanaimo Sulfate Pulp organization on Vancouver Island.

H. HOOKINGS, after 35 years with Alliance Paper Mills, Merriton, Ont., has retired. He was mill superintendent of the Lybster division. He has been succeeded by **JOHN FOWLER**.

President Little of Anglo-Canadian Writes on Currency Situation

The export situation confronting Canada's newsprint industry cannot be expected to improve a great deal until something effective can be done about convertibility of currency, according to Elliott M. Little, president of Anglo-Canadian Pulp & Paper Mills, Quebec, who returned recently from a visit to Europe.

In a letter to **PULP & PAPER** Mr. Little points out that while he does not pretend to be an economist he appreciates that there are many difficult problems which must be solved before convertibility can be brought about. He believes that the only hope lies in the fact that the seriousness of the situation not only in Canada but on world trade will become sufficiently appreciated and responsible governments will feel obliged to work out some reasonable solution.

Canada's newsprint market in the Argentine has been lost for an indefinite period because of the dollar shortage. It is severely restricted in Australia and New Zealand for the same reason, and Mr. Little states that the crisis in the United Kingdom can only result at least for the short term in further reduction in the sale of Canadian commodities to the United Kingdom and the whole sterling area. In addition, other continental countries in Europe are limited in their dollar purchases, practically to ECA assistance.

Timber Agreement Reached For New Alberta Mill

Alberta's minister of lands and forests, Hon. N. E. Tanner, informs **PULP & PAPER** that the general terms of an agreement with R. O. Sweezy for the supply of pulpwood for his proposed pulp mill near Edmonton have been negotiated.

"No details have been worked out," added Mr. Tanner, "except that timbered areas have been set aside."

Mr. Sweezy, whose home is in Montreal, has been in Western Canada during the past few weeks working on his plans for a pulp mill to be located east of Edmonton on the North Saskatchewan river.

Tenth Pulp Mill Talked For British Columbia

The project is still in the tentative stage, but indications point to the Arrow Lakes district of British Columbia as being the site of a pulp mill in the future.

Some months ago Hon. E. T. Kenney, provincial minister of lands and forests, intimated to **PULP & PAPER** that the Arrow Lakes presented a suitable location for a pulp mill and that there had been inquiries from capitalists interested in such an undertaking. During the past few weeks there have been reports that British Columbia interests are behind an Arrow Lakes pulp mill venture that would utilize the extensive timber in that area and hydro-electric power from the West Kootenay Power & Light Co. This would be the tenth location for a pulp mill in British Columbia, three of which have been developed since the war.

Personals

SOUTH

J. A. HOOVER is now paper mill superintendent of West Virginia Pulp & Paper Co.'s Charleston, S. C., mill.

H. R. WILLIAMS is now power superintendent at the Charleston, S. C., mill of West Virginia Pulp & Paper Co.

J. D. DAILY who was former superintendent at the start-up of the new kraft mill at Red Rock, Ont., for Brompton Pulp & Paper Co., and later with the Kimberly-Clark organization at its new Long-Lac kraft mill in Terrace, Ont., has been appointed kraft mill superintendent at the Coosa River Newsprint Co., Coosa Pines, Ala. This mill also will make kraft pulp for Kimberly-Clark, which company is building the news plant for a newspaper group. It will start up next year.

R. E. FERGUSON, formerly master mechanic at Southland Paper Mills, Lufkin, Tex., is now maintenance superintendent.

GYTON DeLOACH, who had been serving as acting director for the Georgia Forestry Commission, has assumed the office in his own right. He is a forestry graduate from University of Georgia.

RAY F. WESTON, for many years woodlands manager of Hollingsworth & Whitney, Mobile, Ala., has retired. He has been succeeded by W. J. Bridges, Jr., by promotion.

LEON SMITH is now plant production superintendent of the Miami Paper Board Mills, Inc., Miami Springs, Fla. The supervisory roster there includes William McAdams, paper mill superintendent; H. Garrison, plant engineer; and H. Hicks, electrical superintendent.

DR. J. E. COPENHAVER has been named research director for Sonoco Products Co., Hartsville, S. C., having been elevated from the post of chief chemist. Dr. J. E. Mills became chief chemist.

S. L. TOWERY, formerly with St. Joe Paper Co., St. Joe, Fla., as power superintendent, is now with Rayonier Inc. at Fernandina, Fla., as power superintendent. We regret that we erred last month in reporting he had gone to another mill in the South.



LOUIS CALDER, President of Perkins Goodwin Co. for over 27 years, was paid remarkable tribute in testimonial booklet following banquet by Texas Publishers for his part in making Southland Paper Mills possible.



A. G. WAKEMAN (left), of Kimberly-Clark organization, who was recently re-elected Vice President and General Manager of the Coosa River Newsprint Co., Coosa Pines, Ala., being built by K-C and to be managed by that company.



H. V. BRADY (right), new Vice President and General Manager of Negley Bag & Paper Co., West Monroe, La. He was formerly V-P in charge of Manufacturing at Rygate Paper Co. in Vermont. He wrote a much discussed article on wage policies published in PULP & PAPER in August 1948 issue.

ROGER J. KING is manager of the fine paper division of Ecusta Paper Corp., Pisgah Forest, N. C.

PHIL McCARTHY, formerly of the Kimberly, Wis., mill of Kimberly-Clark Corp., has been appointed groundwood foreman at the new Coosa River Newsprint Co., Coosa Pines, Ala., which K-C will operate.



GOVERNORS and OTHER CELEBRITIES and a couple of Southern paper industry notables are mingling in these pictures, snapped during a conference of Southern Governors held in Savannah. Union Bag & Paper Corp. and the C. of C. were co-hosts at a party for them.

Top Panel—l. to r.: T. T. Dunn, Resident Manager of the Union Bag mill; Cedric Foster, nationally famous radio news commentator; Mrs. Clifford Davenport; Governor Lane of Maryland; Lee Minglehoff, president Savannah Chamber of Commerce; Joe Ryan, Solicitor General Chatham County Superior Court; and Governor Tuck of Virginia. Lower picture, G. W. E. Nicholson, Union Bag Vice President, appears delighted with charming company he is keeping. At right is Mrs. Herman Talmadge, wife of Georgia's governor; and at left is Mrs. Nicholson.

ROBERT AND COMPANY ASSOCIATES

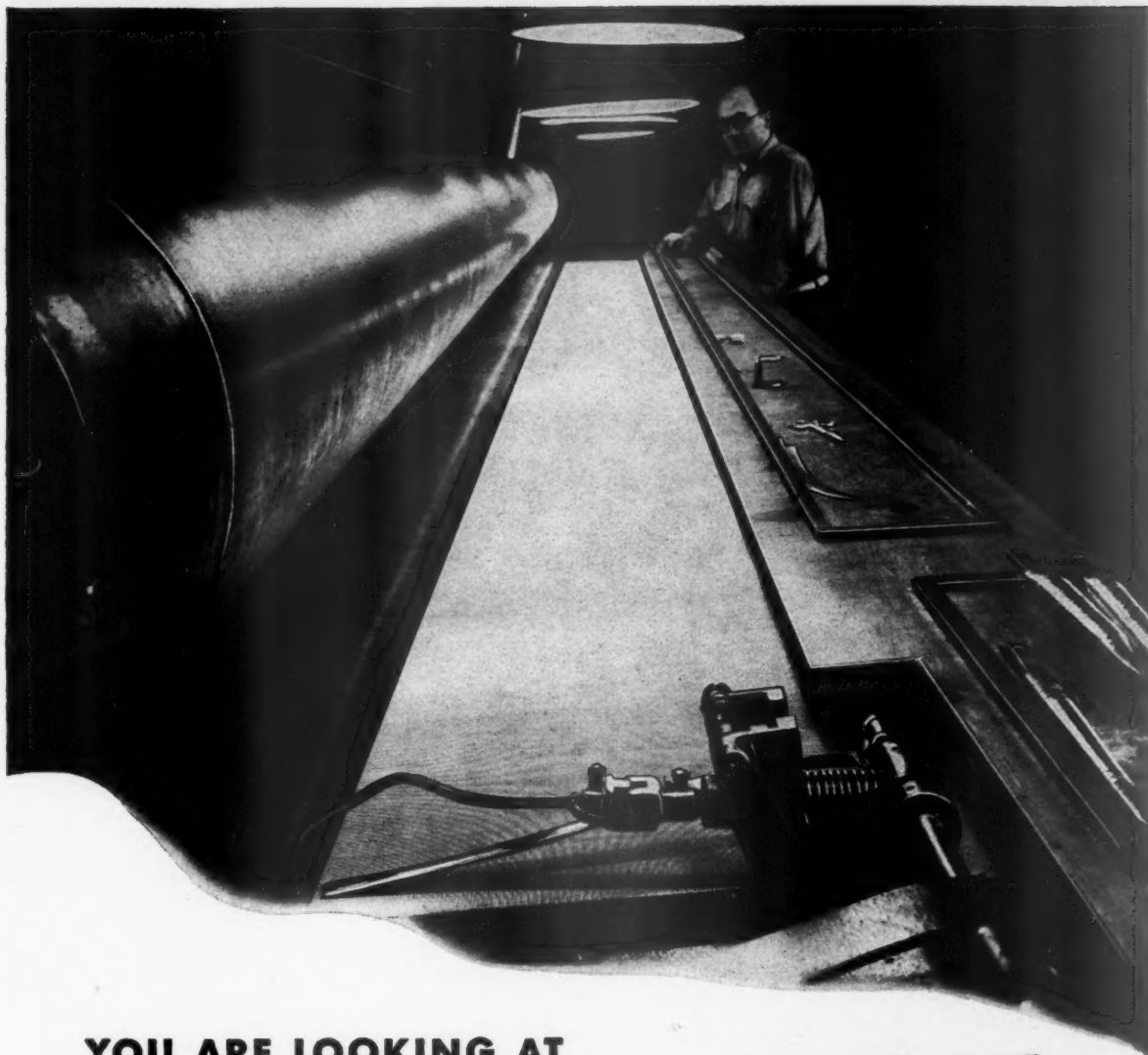
96 POPLAR STREET

ATLANTA, GEORGIA

Consulting and Design Engineers to the
PAPER AND CHEMICAL INDUSTRIES

HAROLD O. MURDOCK, Chemical Engineer

PROCESS STUDIES • DESIGN • POWER PLANTS • INDUSTRIAL WASTE DISPOSAL



YOU ARE LOOKING AT

17,250 WIRES

This is a 230-inch loom, set up in 75 mesh. That means you are looking at 17,250 warp wires.

Back and forth across these wires flies a bobbin carrying shute, or filler, wire. Each time it traverses the width of the loom another shute wire is added to the woven fourdrinier wire cloth at the right.

About 75,000 shute wires must be woven into the warp wires to make one fourdrinier wire a hundred feet long.

From the first operation to the last, our skilled craftsmen watch over every wire to make sure that the paper manufacturer will get a top-quality cloth in every Eastwood Wire.



EASTWOOD-NEALLEY CORPORATION
BELLEVILLE, NEW JERSEY

SERVING THE PAPER INDUSTRY SINCE 1877

September, 1949

103



PACIFIC COAST

Ted Osmund Passes

Theodore Osmund, 69, of Portland, Ore., former vice president of Columbia River Paper Mills and Oregon Pulp & Paper Co., died July 11.

He had been affiliated with this industry on the Pacific Coast for 40 years, having been a principal officer in Tumwater Paper Mills, Tumwater, Wash., one of the earlier mills of that state. Later he affiliated with Columbia River Paper Mills, Vancouver, Wash., and Oregon Pulp & Paper Co., Salem, Ore., as purchasing agent. After 17 years with these organizations he retired in 1946. He was treasurer of Columbia River Paper Mills as well as vice president of both companies.

ROBERT A. BREMNER, 56, assistant chief engineer of Electric Steel Foundry Co., Portland, Ore., died July 11. He was born in St. Louis, Mo., moving to Portland, 38 years ago and had been with Esco for past 16 years, in the development in pulp and paper lumbering fields. Survivors include Opal Bremner, widow, a son Robert, and daughter, Mrs. Jeanella V. Entler, all of Portland, and a brother and two sisters. During World War I Mr. Bremner served overseas with the 23d engineers.

HUNT PATERSON, formerly sales manager, wrapping paper department, Seattle Division, Zellerbach Paper Co., has been made manager of the wrapping paper merchandising department, Seattle Division, succeeding **R. A. MURRAY**, resigned. **FORREST B. RICHARDSON** has been made sales manager of the department, succeeding Mr. Paterson.

GEORGE E. MILLER, resident manager, Columbia River Paper Mills, Vancouver, Wash., paid brief visit of a few days to hospital recently for emergency appendectomy, accounting for his absence from the superintendents meeting at Victoria.

LEO ZIEL, resident manager of the Crown Z mill at Port Townsend, Mrs. Ziel and their son took a vacation trip to Southern California and part of his time in the south Mr. Ziel sat in on an industrial engineering seminar.

WALTER SCOTT, 33 years on paper machines with Crown Zellerbach, who has retired, was given a farewell picnic party by 50 co-workers at Camas, Wash., and wives and presented with a glass fish rod, reel line and case.

ALFRED B. WILLIAMS has been appointed sales manager of the Vancouver, Wash., plant of Bemis Paper Co. Mr. Williams started with Bemis in 1942 as a factory representative.



JAMES T. SHEEHY (left), appointed Resident Mgr., Rayonier Incorporated, Hoquiam, Wash. George Cropper continues to supervise both Hoquiam and Shelton mills. Mr. Sheehy was recently liaison man between western Rayonier mills and New York headquarters, and previously was Res. Mgr. at Fernandina, Fla.

C. W. CONVERSE (right), of 124 North Durkee St., Appleton, Wis., who takes over Pacific Coast area as representative of Sprout-Waldron Co., Muncie, Pa., Pulp and Paper Division. He will continue to serve the Middle West, too, and all of the country, in fact, except the South and New England, where Thaxter W. Small will travel.



Dan Charles Agency To Represent Lodding

Lodding Engineering Corp., with factory and headquarters at Worcester, Mass., has selected the Dan E. Charles Agency, Room 618, Jones Bldg., 1331 Third Ave., Seattle, as its representative in the pulp and paper industry of the Pacific Northwest, according to announcement by W. C. Lodding, president.

Lodding Engineering Corp. designs and manufactures various paper machine accessories, and is best known for having specialized for 20 years in the field of doctors, doctor blades and doctor oscillating mechanisms.

Mrs. Dan Charles heads the Seattle firm with which C. W. Felt is associated as sales representative.

KARL HENLEIN, resident manager of Oregon Pulp & Paper Co., Salem, Ore., was in the class of '16, Central High School, Erie, Pa., with **JOHN WALSH**, now department manager of Paper Chemicals Department, American Cyanamid Co., New York.

BRIAN SHERA of Penn Salt Mfg. Co. of Washington (Tacoma, Wash.) will enter his son, Ned, winner of a state district scholarship, in Yale this fall in the pre-medical school. Ned, center on his high school football team, also won the team inspiration award and a Kiwanis good citizenship award, too.

J. H. JOHNSON, former manager of the Boise, Idaho, branch of the Zellerbach Paper Co., has been made manager of the Phoenix, Ariz., branch. He takes the place of **FRED H. GRIFFITH**, who is being transferred to the Los Angeles division. **EVERETT COLE** has been promoted to Boise manager.

MAX R. OBERDORFER, JR., has been made vice president of St. Helens Pulp & Paper Co., St. Helens, Ore., in addition to the position of assistant manager which he has held of recent years.

Sheehy Hoquiam Manager, Gray, Chief Engineer, for Rayonier

James T. Sheehy has been appointed resident manager for Rayonier, Inc. at the Grays Harbor division, Hoquiam, Wash.

John B. Gray has been appointed chief engineer in charge of Rayonier's Central Engineering division which is at Hoquiam.

George Cropper, who was resident manager at Hoquiam, continues his overall supervisory duties over operations at both Hoquiam and Shelton, Wash., mills. Winston Scott is resident manager at Shelton.

Mr. Sheehy was resident manager at the Fernandina, Fla., division of Rayonier for several years before going west about a year ago to be liaison man at the western mills for New York headquarters. Previously he was chief chemist at Hoquiam and has been with Rayonier since 1933.

Mr. Gray joined Rayonier in 1945, having previously been with Dupont Co.

MRS. ERIK EKHOLOM, wife of the general superintendent, Puget Sound Pulp & Timber Co., is the new women's golfing champion of Whatcom county. Mrs. Ekholm has held the title several times.

GORDON CURZON, research chemist with Puget Sound Pulp & Timber Co., chose the hottest summer in several years to visit his old haunts in Illinois and Ohio.

FRED SIEVERS, groundwood superintendent, Crown Zellerbach Corp., Camas, Wash., captained a group of 35 supervisors and foremen from this plant on trip to the organization's Clatsop Tree Farm on the Oregon Coast. **CLARENCE RICHEN**, chief forester of C-Z, conducted the group through the tree farm.

KENNETH FOX, assistant steam plant engineer of Puget Sound Pulp and Timber Co. is instructor for the Red Cross first aid course being conducted at the mill. Thirty key men are enrolled.

Rovang & Associates New Fabricators

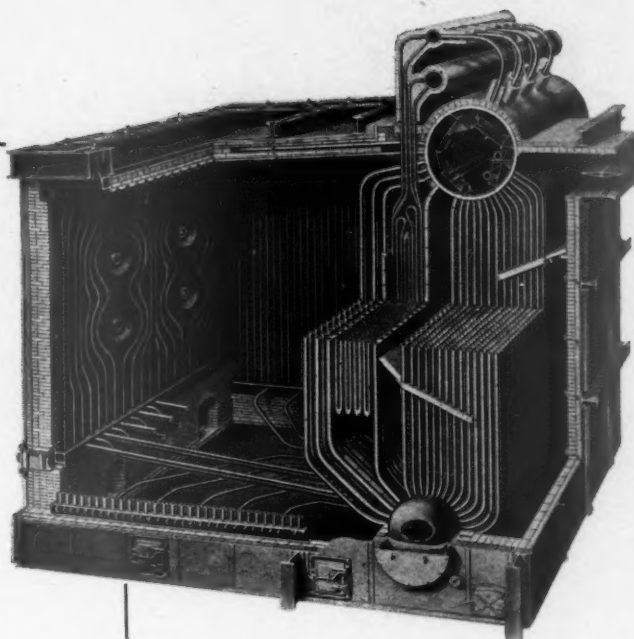
Fabrication of equipment and materials for the pulp and paper industry will be a major part of work by W. G. Rovang & Associates, Inc., a new metals company with offices at 903 Terminal Sales Bldg., Portland, Ore.

W. G. (Wally) Rovang, superintendent of Albina Ship Co. during the war, and recently executive vice president of Northwest Copper Works, heads the firm. Harold S. Hilton, former general manager and designer at Northwest, is vice president.

OPPORTUNITY WANTED

Seasoned executive possessing mature balance, keen perspective and inherent tact seeks position where competence, trust, and unusual ability are required. Technical and practical knowledge of paper making, converting and specialty treatments accrued during 20 years' experience in production, research and technical sales. Reply Box P&P-48, Pulp & Paper, 71 Columbia Street, Seattle 4, Wash.

is a standardized
Boiler Unit
the Best Answer
for your
steam needs?



C-E Vertical-Unit Boiler, Type VU-50. This unit may be fired with coal, oil, gas or any combination of these fuels. Furnace bottom may be as shown or of the hopper type. Other VU designs are available that are suitable for virtually any type of mechanical stoker as well as for oil and gas.

If your capacity requirements fall within the range of the Vertical-Unit Boiler (10,000–350,000 lb of steam per hr), very likely the answer is YES! And this is true even though your combination of load, pressure, temperature, fuel and space conditions may pose a problem different from that of any other plant in the country. The reasons for the adaptability of Vertical-Unit Boilers to widely varying conditions may be simply stated:

FIRST — let's take load, pressure and temperature conditions. VU Units are in service — many for more than 10 years — operating at a variety of steam pressures up to 1,000 psi and at temperatures to 900 F and above. They are meeting load conditions that vary from the widely fluctuating demands of certain process industries to the above-capacity requirements of overloaded steam plants.

NEXT — let's consider your fuel situation. The VU family is versatile. No matter what fuel — oil, gas or coal, alone or in various combinations — the VU furnace design is adaptable to the most suitable type of firing equipment.

AND FINALLY — let's take a look at physical layout, i.e., space conditions. With the integral, water-cooled furnace in front of the boiler

surface instead of below it, head room is seldom a problem. Since width, depth and distance between drum centers are variable in standard increments, virtually any space situation can be met. And you can have deep ash pits or shallow as required, economizer and/or air heater surface if necessary.

Industry — world-wide — has purchased units of the VU family with an aggregate capacity of nearly 100,000,000 lb of steam per hr. So you can select a VU Unit with confidence that you will get all the economic benefits of service-proved, standardized design in an installation suited to your particular conditions.

B-331



**COMBUSTION
ENGINEERING—
SUPERHEATER, INC.**

A Merger of Combustion Engineering Co., Inc. and The Superheater Co.

200 Madison Avenue • New York 16, N. Y.

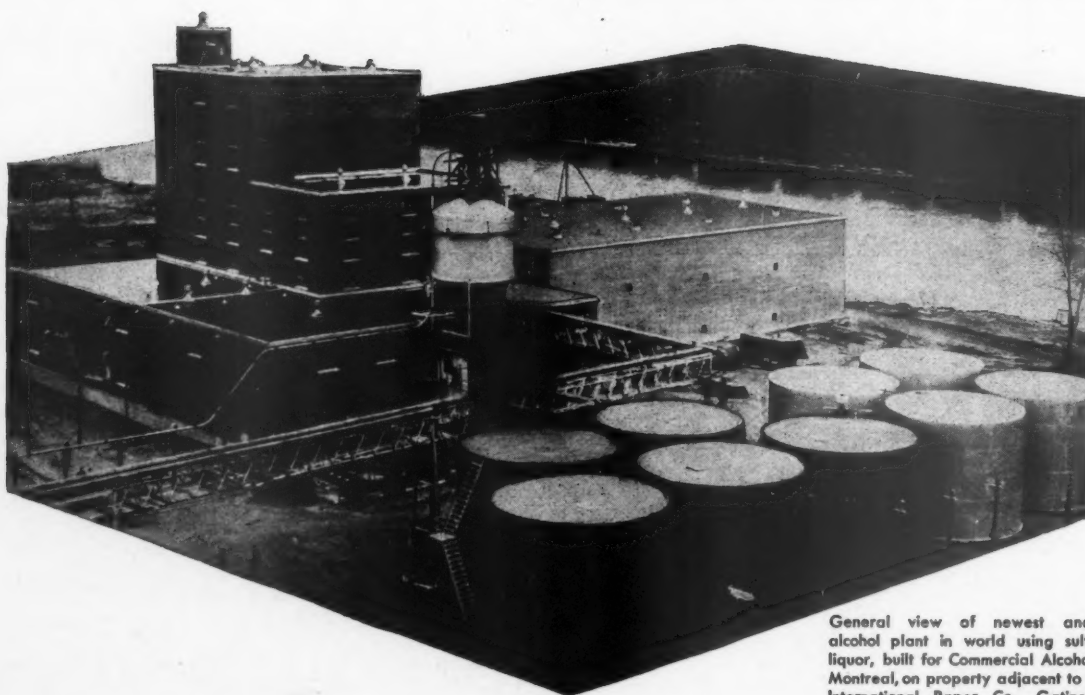
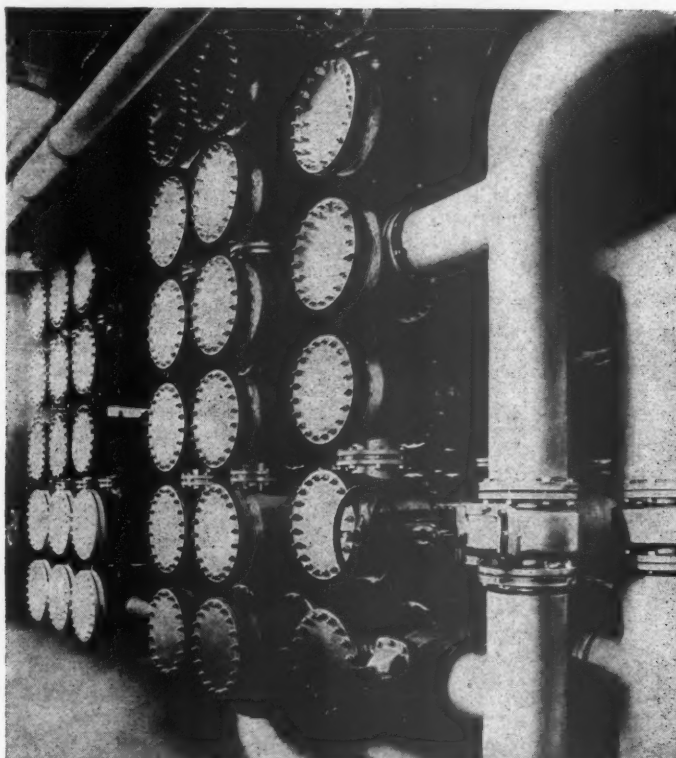
ALL TYPES OF BOILERS, FURNACES, PULVERIZED FUEL SYSTEMS AND STOKERS; ALSO SUPERHEATERS, ECONOMIZERS AND AIR HEATERS.
West Coast Distributor: COMBUSTION ENGINEERING - SUPERHEATER, INC., Skinner Bldg., Seattle, Wash., H. D. Nickles, District Manager

September, 1949

105

TRENT tubing chosen for world's

Stainless steel heat exchangers for cooling waste sulfite liquor to fermentation temperatures in the alcohol process.



General view of newest and largest alcohol plant in world using sulfite waste liquor, built for Commercial Alcohols Ltd., of Montreal, on property adjacent to Canadian International Paper Co., Gatineau, Que.

largest sulfite liquor alcohol plant

Using waste sulfite liquor from the adjacent Gatineau Mills of the Canadian International Paper Company, the new \$3 million plant of Commercial Alcohols, Ltd., of Montreal, has commenced production with a capacity of 9,000 U. S. gallons of alcohol per day.

Design, engineering and construction were carried out by Vickers-Vulcan Process Engineering Company, Ltd., a joint subsidiary of The Vulcan Copper and Supply Company and Canadian Vickers, Ltd.

The extensive use of stainless steel throughout the processing is a significant endorsement of the reputation stainless steel has established in the pulp and paper and the chemical industries. To this reputation TRENT has made important contributions, particularly by demonstrating the advantages of *precision-finished* tubing—machine-formed, machine-welded and machine-sized for uniformity from $\frac{1}{8}$ " to 30" inclusive.

It is noteworthy, therefore, that TRENT tubing was chosen for all services requiring stainless steel piping and tubing, including sulfite liquor lines, heat exchangers, and other stainless steel process piping in the world's largest sulfite liquor alcohol plant. Perhaps you have an application that can best be solved by TRENT tubing. We will be glad to give any desired assistance. Informative data on request.

TRENT TUBE COMPANY

Subsidiary of Crucible Steel Company of America

General Office and Plant—East Troy, Wisconsin • Sales Offices:

Chicago: 4501 W. Cortland St.—New York: Chrysler Building



STAINLESS STEEL TUBING



Pulp mills of the United States and Canada in North America consume more than 30 million cords of wood each year. Perpetuating this supply is the responsibility and the prime concern of management men of the pulp and paper industry. This represents a vast investment in machinery, labor and wood. This section of PULP & PAPER is devoted to ways and means of developing more efficient methods of forest management and wood production.

A FOREST "PILOT PLANT" To Set Standard for Consolidated Timber

Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis., has set up an experimental industrial forest management unit in northern Wisconsin. Emmett B. Hurst, manager of the Company's Timberlands Division, calls it "an outdoor laboratory for the development of forest management practices."

It has been named the Gagen Forest Management Unit, and is located near the intersection of U. S. Highway 45 and county trunk highway C, 16 miles east of Rhinelander. The unit contains 2,300 acres of aspen, balsam, hardwood and swamp forest, and is representative of the 160,000 acres of timberlands which the company owns in northern Wisconsin and Michigan.

Current logging practices on company land are comparable to those in effect on the public forests in the Lake States. However, the pulpwood yield off these lands can be increased and the quality of wood improved by practicing intensive forest management, said Mr. Hurst.

Practical forestry measures developed here will later be applied to all of the company's forest land. Various cutting methods will be tested to determine whether the increased yields which these methods afford will justify the additional expense of management. Complete cost records will be kept. Since the production of timber is a long term proposition and the forester who organizes a project like this can scarcely hope to see it in completion, detailed technical records must also be preserved for all operations, explained Mr. Hurst.

"More pulpwood faster" is the watchword for the new experimental forest. Rate of growth, establishment of reproduction, and salvage of dying and damaged trees will be carefully watched. In the case of mature timber and dense stands of second growth or reproduction, the various cuttings will be used to improve the vigor and composition of the forest. On areas deforested by fire and destructive logging, trees will be re-established by

the standard method of planting, as well as by the newer technics of direct seeding where feasible. Much of the forest of the Gagen Forest Management Unit is between these two extremes of good forest and poor forest. Like the bulk of the cut-over land in northern Wisconsin, it supports a few good trees per acre, and a few poor trees, with a generous seasoning of underbrush. It stands like this, new forestry technics, must be developed to obtain successful managed stands.

Work on the Gagen Unit will be directed by J. W. Macon of the Consolidated Water Power & Paper Co. forestry office in Rhinelander. Mr. Macon has been conducting forest research and investigation work for the company for three years. Prior to joining Consolidated, he was for

three years with the Forest Products Laboratory at Madison, Wis., and for seven years on the staff of the Lake States Forest Experiment Station at St. Paul, Minn.

While some cutting experiments have already been started in balsam stands, present work on the experimental forest consists in sub-dividing the area into management units and compiling an inventory of timber volumes, species and age classes. By the end of 1949 work will start in harvesting mature timber, thinning, and reforesting poorly stocked areas.

Consolidated now has 12 other technically-trained foresters in timber operations in Wisconsin, Michigan and Minnesota.

Tree planting which began in 1934 and other forward steps taken by Consolidated

HERE'S MAP OF AREA IN NORTHERN WISCONSIN where Consolidated Water Power & Paper Co. has launched an intensive experimental industrial forest management unit. It has been named the Gagen Forest Management Unit, comprising 2,300 acres, and is 16 miles east of Rhinelander.



cut your pulpwood inventory with *Year Round* operation



The Carco E Winch will double your tractor's pulling power. For tractors from 30 to 45 HP

CARCO

CARCO Winch-Log Cart teams reduce stockpiling of pulpwood by working through mud and snow.

Big, expensive pulpwood stockpiles are unnecessary, because logging the year round with tractor winch and log cart assures a continuous supply of pulpwood. Carco Winch-Log Cart teams can stay on the job in soft ground or snow, bringing in the pulpwood.

The Carco Winch gives your tractor more pull and the Carco Log Cart lifts your load, reducing drag. More pull and less drag mean easier going at all times. When traction is poor due to soft ground, drop the load, go ahead to firm ground paying out the line. Then winch up load and proceed. This permits profitable logging even in sloppy weather.

You'll use fewer tractors too, because the Winch-Log Cart team easily doubles log output per tractor over drawbar methods.

There is a Carco Winch for nearly every tractor made and a Log Cart or Arch for every logging job. Put them to work for year round operation.

Get the most
out of your
Tractor Logging
Equipment with

CARCO

Rigging
Fittings

PACIFIC CAR AND FOUNDRY COMPANY

RENTON, WASHINGTON U.S.A.
BRANCHES: PORTLAND, OREGON • FRANKLIN PARK, ILLINOIS

are carrying out long term plans initiated by George Wilson Mead, president of the company, which has a pulp mill at Appleton and paper mills at Wisconsin Rapids, Biron, Stevens Point and Whiting Wis., of 800 tons daily papermaking capacity.

Stanton W. Mead, vice president and director of manufacturing and son of President Mead, has given a great deal of his time to pulpwood problems of not only his company but of the Wisconsin industry as a whole.

Powell River Also Has "Pilot Plant" Sample Plots

Powell River Co., Powell River, B. C., has recognized the need for planning and experimentation in forestry, and it has

embarked on a program of forest research.

It has established an experimental and demonstration forest area for the purpose of studying by means of long-term experiments the various approaches to the problems of thinning, selective cutting and reforestation in stands of immature timber.

The area chosen consists of 450 acres near the Powell River townsite.

Principal forest type is 50-year-old Douglas fir, which originated after logging and fire in the 1890's removed a fine original stand of fir and cedar. Sections of the new forest have been badly overcut for firewood, etc.

Powell River foresters began making an accurate topographical map early last year, and this was followed by an intensive forest inventory to ascertain the tree types and location.

The basic land-use plan is five-fold: (1) to carry out experiments in stand treatment in order to produce the highest volume and the best quality timber on a perpetual basis; (2) to experiment in the various methods of cutting and transportation; (3) to arouse public interest in forestry by demonstration; (4) to bring relief to the fuel shortage in the district by making available wood to be cut by employes and dealers; (5) to beautify the surrounding. In five sample plots each tree 2.6 inches in diameter and over was marked with a metal tag, measured to the nearest tenth inch in diameter and its exact position plotted on a map. Records will be kept of each individual tree. When trees are removed in thinning any change in growth in surrounding trees will be revealed.

LOGGING METHODS DESCRIBED

Sulky Operators in Maine Show



HERBERT R. SODERSTON, Resident Woods Mgr., Brown Co., and Logging Engr. for both Brown Co. and Brown Corp. of Canada, will be in charge of American Pulpwood Ass'n meeting Sept. 27-28 at Berlin, N. H. Subject for the meeting will be, "Four Foot vs. Longer Length Pulpwood".

Sulky logging was the chief subject taken up at the American Pulpwood Association sessions at Lily Bay and Kokadjo, Me., late in June. One of the features was a film by the Northeast Pulpwood Research Center which covered skid pond operations of the Eastern Corp., stressing crane loading of pulpwood bolts in the woods by means of a "Caterpillar" mounted Hystaway. Also shown were the sulky and slasher mill operations of Brown Company at their Stag Hollow Camp, high boom arching in the Southern Kraft Division operations of International Paper, the Dixie Pallet system at Brunswick Pulp and Paper Co. (described in April 1947, **PULP & PAPER**, page 32) and Euro-

pean operations employing the Lasso cable system.

It was decided that the next meeting of this group would be Sept. 27 and 28 at Berlin, N. H., taking up the subject of "Four Foot vs. Longer Length Pulpwood," H. R. Soderston, Brown Co., will be in charge.

Following the Lily Bay session a meeting was held at headquarters of S. D. Warren Company, Bingham, Me., from where the convention went by car to the Fall Brook sulky operations where S. D. Warren Co. is cutting into pulpwood the beech, birch and maple of pole size timber eight to 14 inches dbh and running up to 15 cords per acre. The following steps are taken in this logging:

1. Felling of trees over eight inches by two-man crew using cross-cut saw, single bit axes and wedges, trimming tree-length sticks, leaving a fair residual of two to eight inch trees;

2. Bunching by ground skidding with a "Caterpillar" tractor equipped with Hyster winch;

3. Sulky skidding of tree-length sticks with a "Caterpillar" D-6 equipped with Hyster winch and Hyster sulky;

4. Bucking by means of a slasher mill set up by the side of a surfaced truck road, the Ireland straight line drag saw being powered with a 11-hp Allis-Chalmers gas engine.

About 16 to 20 cords per day were produced with the following distribution of men: One foreman, four fellers, two men for bunching, one sulky skidder, four men at slasher mill, one loader, and one truck driver, which averages better than a cord per man per day from stump to mill, considerably better than the area average. It permits economical logging of many areas which might be considered too costly for conventional methods. Silviculture condition of the stand after such logging appeared to be satisfactory.



MEETINGS

Conference on Conservation and Utilization of Resources (includes forests, land and water) United Nations, Lake Success, N. Y. August 17-Sept. 6

International Conference on Wallboards—Harvard U., Cambridge, Mass. Sept. 16

Society of American Foresters (Annual Meeting)—Olympic Hotel, Seattle, Wash. Oct. 10-14

Pacific Logging Congress Machinery Show—Civic Auditorium, Seattle, Wash. Nov. 14-16

Western Forestry & Conservation Assn.—Multnomah Hotel, Portland, Ore. Dec. 7-10

Leaving Lake Kokadjo, the group then proceeded to study the cable skidding operation of the Hollingsworth & Whitney Co. on steep mountainous slopes with heavy stands of spruce and balsam. Neither horses nor tractors could be used here with safety, so a cable system representing a highlead yarding method was used as follows:

1. Spruce and balsam felled and trimmed by two men with crosscut saw;

2. Portable high lead mast set up at bottom of the slope of each area, the main line laid up the slope;

3. "Caterpillar" tractor used for power with a double drum Hyster winch.

The main line is hooked up two to four tree length sticks by cable chokers, and then brought down hill to a yard

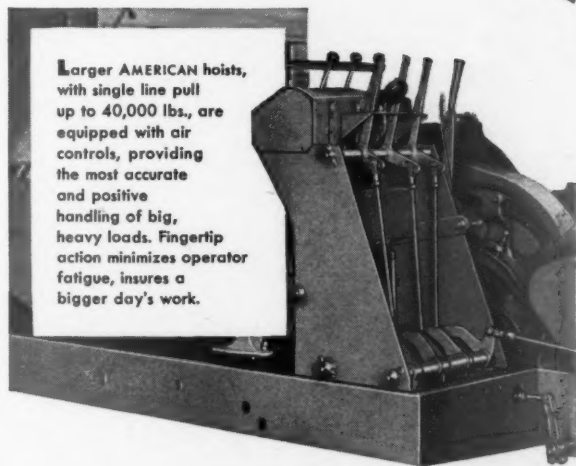
No ACROBATS need apply!



NO, and it doesn't take an India-rubber man to handle the controls of an AMERICAN hoist, either.

One big reason why AMERICAN hoists work more minutes per hour, more hours per day, is that controls are grouped to eliminate waste motion and are banked for effortless "reach". Hand levers are operated with a natural push-pull motion . . . not an awkward lateral action. Positive acting foot-brake keeps the load under command, and external contracting band friction clutch makes the hoist answer instantly to the operator's touch. Result: a rested, alert man at the controls.

AMERICAN Hoist builds the world's most complete line of hoists . . . from a quarter-ton Utility Hoist to Contractors' Hoists with 20 ton capacity. To find out about the model that fits your business best, write today for catalog.



Larger AMERICAN hoists, with single line pull up to 40,000 lbs., are equipped with air controls, providing the most accurate and positive handling of big, heavy loads. Fingertip action minimizes operator fatigue, insures a bigger day's work.



American Hoist and DERRICK COMPANY

St. Paul 1, Minnesota

Plant No. 2: So. Kearny, N. J.

Sales Offices: NEW YORK • PITTSBURGH • CHICAGO

AMERICAN HOIST & Derrick Co.
ST. PAUL 1, MINNESOTA

MAIL THIS
COUPON TODAY!

● Please send catalog showing hoists
for pulpwood handling.

43

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____

September, 1949

111

where chokers are removed and a tractor and hyster winch and sulky equipped with chain chokers picks them up from the yard and skids them to the mill. The slasher mill is of the circular saw cutoff type built by Northern Engineering and Supply Co., Fort William, Ont. Hauling

is done on International trucks one of which has a front-mounted winch to raise the oversize bed.

Committee members for the sulky loading sessions were R. R. Drummond, Oxford Paper Co., chairman; L. J. Freedman,

Penescot Purchasing Co.; O. A. Sawyer, Hollingsworth & Whitney; E. W. Spaulding, Dead River Co.; W. R. McKay, Eastern Corp.; E. C. Melcher, S. D. Warren Co.; R. W. Merrill, Penescot Purchasing; R. F. Vigue, Hollingsworth & Whitney; and H. R. Soderston, Brown Co.

NEW LOG-TOWING OPERATIONS

MacMillan Initiates New Measures

A new form of log towing for somewhat exposed waterways, where there might be rough weather, has been developed by the H. R. MacMillan Export Co. for the new Nanaimo Sulphate Pulp, Ltd. kraft market pulp mill at Nanaimo, B. C.

The logs are transported from the Kennedy Lake Logging Co. near Ucluelet, B. C., on the west coast of Vancouver Island, to various points on the lower mainland of British Columbia and to the east coast of the island—a route which involves considerable open-water towing. Flat rafts can be towed in this area only in calm weather and in view of the uncertainty of the winds and seas at almost any period of the year this technique is usually discouraged.

While some Davis rafts have been built and towed down the west coast the tendency in recent years has been an increasing use of barges.

One of the first to suggest the use of wartime landing barges for transportation of logs on the west coast was Harry McQuillan, formerly of North Coast Timber Co., whose holdings at Ucluelet have been taken over by the MacMillan company and operated under the name of Kennedy Lake Logging Co., managed by Ken Baird.

The principal departure from the conventional in the method used by the H. R. MacMillan group, which operates in the towing and deepsea shipping business under the name of Canadian Transport Co., is the use of two former LST landing barges converted for the log carrying trade, the entire superstructure being removed, and the procedure in stowing the logs.

Better Results

Standard logs are loaded on the barges at Ucluelet by the ordinary swinging boom method, but they are stacked broadside on the deck rather than lengthwise, as was previously the custom. It has been found that broadside loading gives greater rigidity to the cargo and less tendency to become unbalanced. The whole load is usually secured by three or four lengths of steel wire from stern to stern as an additional precaution against the hazards of stormy weather.

Loading from the water onto the barges is accomplished by a hayrack boom powered with a 150 h.p. Cummins diesel engine with torque converter. The logs are large and no attempt has been made to bundle them; they are lifted one by one

onto the barge for the open-water tow to the sawmills.

As a part of its operation Canadian Transport Co. has acquired and put into commission two powerful tugs which formerly served the United States Army Transport. They have been named the Towmac and the Logmac.

The Towmac is one of the best equipped towboats on the coast. Overall length is 164'5", beam 33'3" and depth is 19'1", with gross tonnage of 615.

Both tugs are powered by 4 cylinder triple expansion reciprocating steam engines developing 1800 horsepower, giving a speed of 12 knots on two boilers and 10 knots on one boiler. The tugs are of wood construction with steel superstructure.

The barges are 280 ft. long. Forty feet of the stern was removed in converting the landing barges to their present purpose and to provide swept-up bottom and stern. Beam is 50 ft., with a maximum load draft of 12 ft., giving a capacity of 600,000 board feet of logs. The landing ramp at

the bow was closed in and made watertight. The craft are described as exceptionally seaworthy.

A tow from Ucluelet to the Fraser River, where two MacMillan plants are located—Canadian White Pine and MacMillan Industries—occupies between 20 and 24 hours. In addition to towing these barges, the Towmac also tows flat booms from Ucluelet to the company's Port Alberni plants—Alberni-Pacific Lumber Co., sawmill and Alberni Plywood Ltd. This involves a minimum of open-water towing as Ucluelet is near the northern entrance to Alberni Canal, whereas the run down from Ucluelet, around William Head and on to the mainland represents a lengthy passage subject to the full force of the Pacific.

With this towing system in order logs can be readily supplied to the new MacMillan subsidiary.

H. R. MacMillan is president; W. J. Van Dusen, E. B. Ballentine, vice presidents, and Clifford Crispin, manager of the mill.



Above, sketch showing location at Nanaimo on eastern shore of Vancouver Island where H. R. MacMillan Export Co. has built a new pulp mill. Dotted line shows route of the first log tows which went to Vancouver and the Fraser River mills.



Get a *peavey grip* on your logging jobs and turn them to profit with International diesel or gasoline-powered crawlers. Their power and maneuverability—plus easy starting and low cost operation—make logging more profitable. ● International crawlers excel in every operation requiring high drawbar pull with geared-to-the-ground traction. Your new International will be the *clincher* with which to grab on to bigger loads and make more productive your entire woods program. ● See your International Industrial Power Distributor for complete information on the tractors you need in your operations.

INTERNATIONAL HARVESTER COMPANY • CHICAGO

Plenty of power at both winch and drawbar makes the maneuverable TD-9 an ideal log getter in selective logging. Low operating and maintenance costs assure a plus in profits. Send for your copy of our logging folder, now.



**CRAWLER TRACTORS
WHEEL TRACTORS
DIESEL ENGINES
POWER UNITS**



**INTERNATIONAL
INDUSTRIAL POWER**

September, 1949

113

FACTS ABOUT PAPER

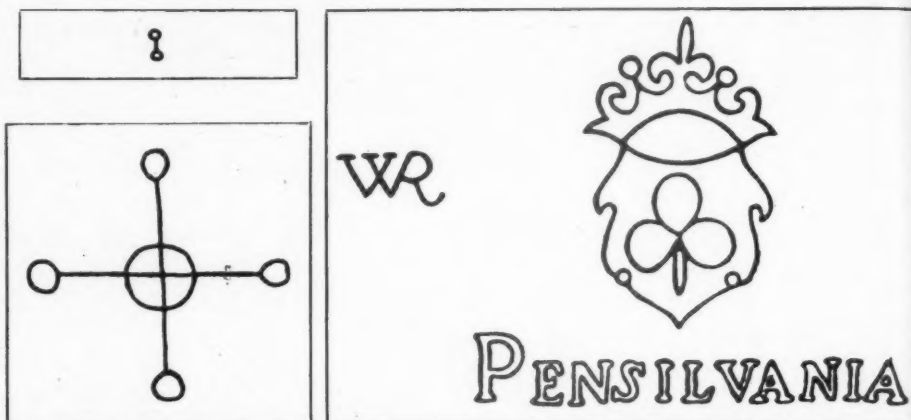
"LIFEBLOOD OF CIVILIZATION"

By John L. Parsons

Research Director, Hollingsworth & Whitney Co., Waterville, Maine

Just prior to the last war an article entitled "The Gray Terror" appeared in a Canadian periodical in which the author realistically pictures the effect of a gas which has the property of reducing cellulose to a gray powder. The reservoir containing this gas, which was destined in his story for use in warfare, had mysteriously exploded and, although its ill effects on human tissues had already been neutralized, it still possessed the property of converting cellulose to powder, similar to the action of strong acids. Imagine, if you will, the ramifications of such a disaster. Let me recount briefly the observations of one man in "The Gray Terror."

First, the cigaret which our observer was smoking fell to the floor because the paper wrapper disintegrated; next, the newspaper which he was reading slowly darkened and crumbled suddenly to a gray powder on his lap. He suddenly remembered the roll of paper money in his pocket and observed the edge of the outer bill was already gray. To protect the roll he quickly placed the bills between the soles of his shoes and the rubbers he was wearing. Passing through a railroad station he noticed the jumbled piles of food, clothing, and other materials which had been wrapped in paper, now reduced to gray dust. He suddenly thought of his office records and the formulas used in his business. Frantically he sought to telephone his office but the gray terror had already taken care of the paper insulation and short-circuited the wires. The entire machinery of commerce — paper money, paper securities, documents, ledgers, the Post Office, the Stock Exchange — was in the process of being silently destroyed. In the local grocery store there was an avalanche of curious mixtures of foods, formerly housed in attractive paper containers. Without paper, trade had stopped; industry was rapidly coming to



EARLY WATERMARKS. These reproductions were provided PULP & PAPER magazine by the author to illustrate his article. The two on the left are the earliest known watermarks, used in Europe in the 13th century. The larger one on the left (below) was used in A.D. 1282 and the small one at top about 1286. At right is the Rittenhouse watermark, of about 1706. The Rittenhouse mill was built in Germantown, Pa., in 1690.

a standstill. The printed word was disappearing in homes, in schools, libraries, and in business. Civilization had received a setback of centuries.

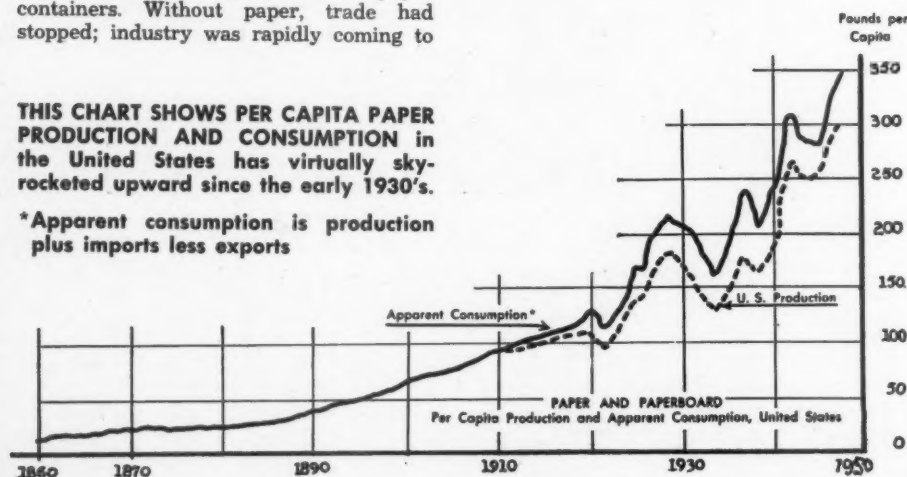
This imaginative picture is drawn to emphasize the importance of paper in our everyday life, in our homes, and in our business. Because of its abundance, paper is frequently given the same consideration as the air we breathe or the water we drink. We seldom stop to think of the vital role it plays in our lives. It has been likened to the blood in our bodies, carrying life and energy to every member, making possible cooperation and coordination in this 20th Century world. In effect, "Paper is the lifeblood of civilization" (Ralph A. Hayward, president of KVP, in New York Paper Week address in 1942).

Early Watermarks

Early watermarks were made with wires bent into designs as shown in these pictures, and soldered onto the network of the mold. Where the wire pressed into the pulp, the latter was thinned and the watermark was left. The first watermark known is found on paper made at Bologna in 1282, according to the Ciba Review. In the fourteenth century, intricate designs were in use, many of which were variants of the same motif. The watermark gradually came to stand for the quality of the paper. Well-known marks were widely imitated which, with the unintended resemblances and numerous variants, makes it difficult to determine the origin and epoch of a paper from watermarks alone. The present-day design is soldered on the wire gauze of the dandy roll or is cast with the gauze in sharp relief.

THIS CHART SHOWS PER CAPITA PAPER PRODUCTION AND CONSUMPTION in the United States has virtually skyrocketed upward since the early 1930's.

*Apparent consumption is production plus imports less exports



According to J. H. Breasted, author of "Conquest of Civilization" (Harper Bros.), the greatest fact in all history is the fact that man possessed the capacity to rise from bestial savagery to civilization but this achieved supremacy has been a very gradual process now traceable by modern science for over a half a million years. The invention of writing and a system of records has had greater influence in uplifting the human race than any other intellectual achievement in man's history. It is more important than all the battles ever fought and all the constitutions ever devised. Man's progress may be divided into three stages, each of which extends over many years: speaking, drawing, and printing. The first stage was mastered by primitive man. For thousands of years means of communicating thoughts was by the human voice. In the second stage, a method of

(Continued on page 123)

FROM CAROLINA TO MAINE THE NAME IS **LORAIN**

for International Paper Co.

The pulpwood handling requirements of this company vary with the localities and the mills—but one thing that doesn't vary is the efficient pulpwood-handling performance of their Lorains.

For instance, at Livermore Falls, Me., a yearly consumption of 50,000 cords of 4 ft. wood must be stored in the blockpile; later wood must be stored in the blockpile; later transferred to the mill conveyor. Here, to pile high and reach far, International uses a big Lorain-820 with a 75 ft. boom and $\frac{3}{4}$ cord pulpwood grab.

In South Carolina, the job calls for unloading from trucks to barges. A smaller Lorain-TL crane does this job for International at $\frac{1}{2}$ the cost of former methods.

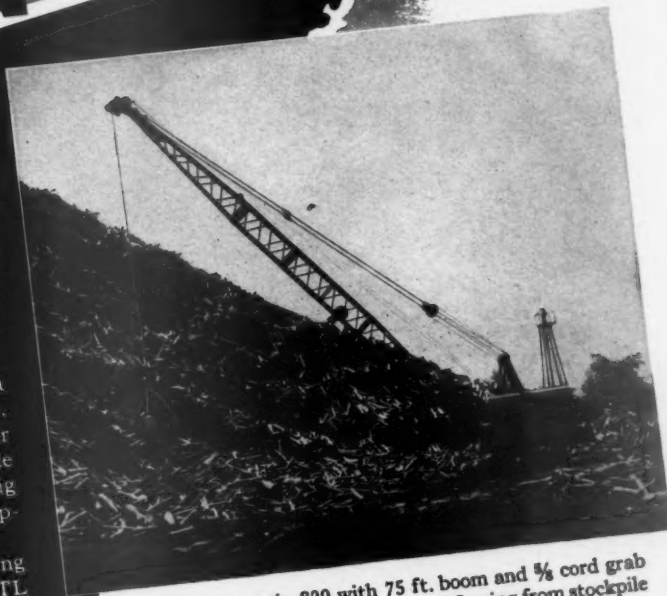
You, too, can enjoy such efficiencies and economies on your pulpwood-handling by using a Lorain of the proper size and mounting (see below). Your nearest Thew-Lorain distributor will give you all the facts.

THE THEW SHOVEL CO., LORAIN, OHIO

THEW[®] **Lorain**

**SHOVELS • CRANES • CLAMSHELLS
DRAGLINES • HOES • MOTO-CRANES**

OVER 75 LORAIN COMBINATIONS TO CHOOSE FROM
3 series of models, in a wide range of capacities, available on crawler or several types of rubber-tire mountings



MAINE—A Lorain-820 with 75 ft. boom and $\frac{3}{4}$ cord grab keeps a steady flow of 4 ft. pulpwood flowing from stockpile to conveyor.



SOUTH CAROLINA—Here a Lorain-TL crawler crane unloads $5\frac{1}{4}$ ft. wood from trucks to barges; handles 240 cords per 8 hours at $\frac{1}{2}$ the former cost.

POWELL RIVER

UNBLEACHED SULPHITE PULP



- ★ STRENGTH
- ★ COLOR
- ★ SERVICE
- ★ DEPENDABLE
SUPPLY

**POWELL RIVER
SALES COMPANY
LIMITED**

1204 STANDARD BUILDING • VANCOUVER, B. C.

This Has Become An Important Center of Pulp and Paper Operations



San Francisco Bay Metropolitan Area (Comprising the Nine Counties Bordering on the Bay)

In the area shown on this map, new mills are being built or being expanded.

Numbers on this map indicate approximate locations of points of interest to this industry, as follows:

35—Headquarters are in San Francisco for Crown Zellerbach Corp., operators of five pulp and paper mills in three Coast states and for Fibreboard Products Inc., operators of ten board and carton mills and two pulp mills (one near completion). Here in downtown San Francisco is Pacific Paterson Parchment Paper Co., expanding its converting and coating operations. Schmidt Lithograph Co. has paper coating plant in San Francisco.

20—Fibreboard's Stockton division additions: Boiler and turbine, corrugating, folding carton and other new equipment.

21—Fibreboard has new machine and power facilities at its present Antioch board mill and is building new San Joaquin division in East Antioch with semi-kraft .009 mill and bleached kraft pulp and board mill.

22—Johns Manville has expanded asbestos paper and plant facilities in Pittsburg.

25—Certain-Teed Products roofing and building paper plant is in Richmond.

26—California Container Co., recently purchased by

Container Corp. of America and Owens-Illinois Glass Co.

27—Paraffine Co.'s new \$4,000,000 to \$5,000,000 plant including felt, roofing, and other manuf. facilities is in Emeryville.

28—In Oakland area is Dobeckmun Co., Oakland division, big manufacturers of cellophane bags. Longview Fibre Co. is building a new kraft converting and corrugating plant here.

30—New Western Waxed Paper Co. plant in San Leandro. Also here is new plant of Fry Roofing Co.

33—Royal Container Co., manufacturers of corrugated cartons, in Millbrae.

Regards to **T**APPI and Members

FIVE NEW CHILDREN IN THE IMPCO FAMILY

A NEW CHIP BIN DISCHARGER for Round and Rectangular Bins

A "THICK STOCK" PUMP Good for

200 Tons Per Day **A**t 12% or Higher Consistency

A "VALVELESS VACUUM" DECKER Which Handles

up to 45 GPM **P**er Square Foot of Cylinder Area

THE NEW "WACO" FILTER—

A Machine Which **P**re-Coats a Traveling Wire
With Pulp as a Saveall or Raw Water Filter

A NEW CHIPPER—

Which Slices. **I**nstead of Chopping—
Better Chips—Less Sawdust

CAN THESE FIT INTO YOUR PLANS?

Ask Jim Rubush at the Multnomah Hotel During Convention
or write

***Improved* Paper Machinery Corporation**
NASHUA . NEW HAMPSHIRE

Lyddon & Co.

*Exporters of
wood pulp to all
world markets*

**PULP
PAPER**

*Parsons and
Whittemore*

Paper Exporters

Wood Pulp

• A World-wide Organization •

10 EAST 40TH STREET, NEW YORK 16, N. Y.

LONDON
SOUSSE

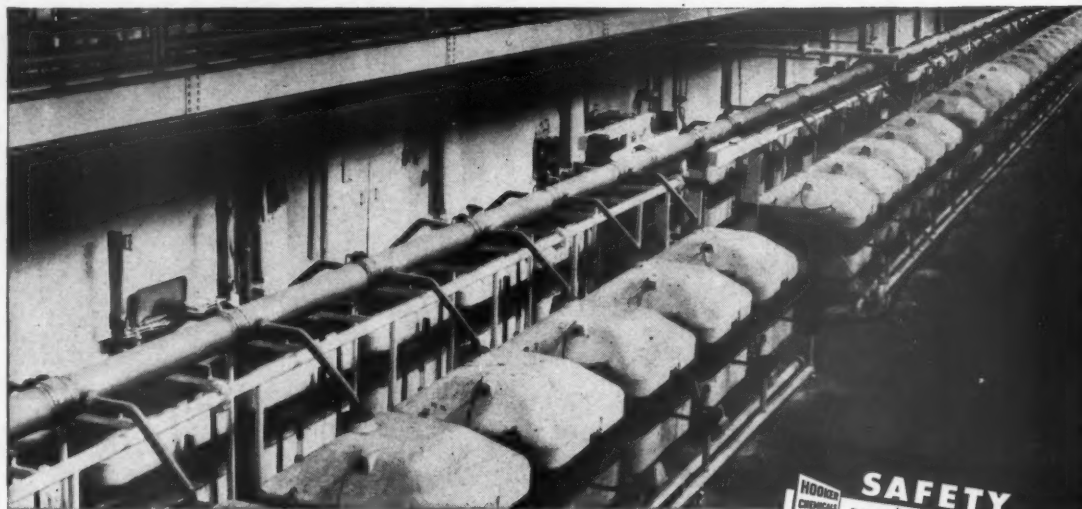
PARIS
MONTREAL

ZURICH
BUENOS AIRES

STOCKHOLM

OSLO
SAO PAULO

Careful Buyers of Caustic Soda and Chlorine *SPECIFY HOOKER*



In the Hooker Electrochemical Company you have a dependable source for caustic soda and chlorine of high quality and constant uniformity. This is testified by the increasing number of users who year after year continue to secure their requirements from Hooker.

They have learned through experience that they can rely on these products of the famous Hooker "S" Cell. Produced under watchful control, each shipment is of the same uniform high quality. Through careful inspection and care of containers it reaches you in the same condition it leaves our plants.

Hooker Caustic Soda is available in solid, flake, or liquid form. Liquid is available in 50%, 73% and special grade solutions.

Hooker Liquid Chlorine, of standard market quality, is shipped in cylinders, multi-unit cars and tank cars.

For uniform processing from uniform Liquid Chlorine and Caustic Soda, specify Hooker.



Users of Chlorine will want a copy of the Hooker Wall Chart, "Recommendations for Safety in the Use and Handling of Chlorine in Cylinders and Ton Containers". Printed in large readable type on linen backed paper, it is ideal for mounting wherever you use or store chlorine.

From the Salt of the Earth

HOOKER ELECTROCHEMICAL COMPANY

2 UNION ST., NIAGARA FALLS, N. Y.

NEW YORK, N. Y. • WILMINGTON, CALIF. • TACOMA, WASH.

SODIUM SULFIDE • SODIUM SULFHYDRATE • SODIUM TETRASULFIDE • CAUSTIC SODA • MURIATIC ACID • PARADICHLOROBENZENE • CHLORINE

120

PULP & PAPER

**HOOKER
CHEMICALS**

9-1061

Big Demand for U. S. Equipment In Italy's Largest Operations

The Economic Cooperation Administration has approved use of \$1,650,000 in Marshall Plan funds for modernization of the 11 mills of Cartiere Burgo of Milan, Italy, in payment of contracts with Sandy Hill Iron & Brass Works, Hudson Falls, N. Y. The Italian company will pay from its own fund one million lire to pay other costs of the project.

Machines, machine parts, motors, piping vats, groundwood equipment, fork lift trucks, instruments and other equipment are mentioned in the contracts.

One objective is to increase newsprint production from 210 to 295 metric tons per day in the Cartiere Burgo mill which now produce about one-third of Italy's paper output. It makes rag, book and kraft papers, too. The company also has a pulp mill in Austria and power plant on the Po River. Sandy Hill last spring modernized the Burgo paper mills at Verzuolo and Corsico, Italy.

Rebuilding of Indiana Mill Is Near Completion

Rebuilding of the Kieffer Paper Mills, Ewing, Ind., is near completion. The mill building is all new, of steel, brick, and concrete, monitor type, approximately 340 by 165 feet and contains 3500 square feet of ribbed glass windows. The entire interior has been painted white and the building is just about as light inside as outside. All electrical and power wiring is in conduit.

The company will manufacture their own current with a larger generator than they had before the fire, and large enough for 20% increase in production.

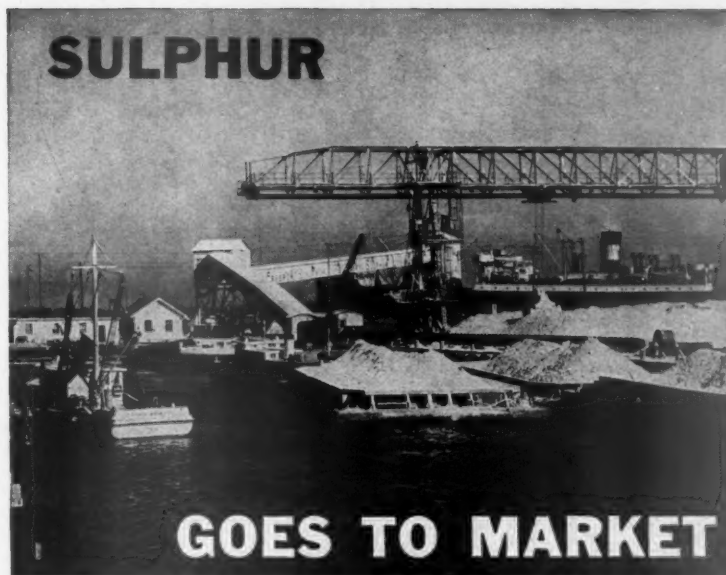
The mill contains three cylinder machines; 40, 56 and 64-inch trim.

Rebuilding was under supervision of J. E. Kieffer, treasurer, who has managed the plant since the company was formed in 1905.

Kimberly Pulp Mill Celebrates Safety Record

One thousand safe days in the pulp mill without a lost-time accident was occasion recently for a celebration—first of its kind—held by 150 employees, wives and friends of the Kimberly, Wis., mill of Kimberly-Clark Corp. in Combined Locks park near Kimberly.

Among company officials from Neenah, Wis., to attend were H. W. Swanson, chief of staff for pulp manufacturing, and H. A. DuBois and R. J. Auchter, from the pulp manufacturing department, and E. V. Johnson of industrial relations. Kimberly mill guests of the pulp mill department were J. T. Doerfler, Al Wilkinson, Al Briggs, Alvin Fulcer and William Van Hout.



From this Mississippi River shipping terminal of Freeport Sulphur Company at Port Sulphur, Louisiana, Sulphur is shipped to industry.

One of a series of Stories on Sulphur

BY RAIL and by water Sulphur shipments leave Gulf Coast ports bound for market. Where is the market for Sulphur? Everywhere we look around us. A hundred times a day we touch and use food, materials and articles in which Sulphur has played a part. Sulphur's markets are the countless industries which need its help.

THESE industries make use of the chemical properties of Sulphur to supply us with such products as rubber, paper, fertilizer, chemicals, rayon, petroleum products, steel, dyes, paints, explosives and textiles. And these are only a few of the products in which Sulphur is a key factor.

SOMETIMES Sulphur is used just as it comes from the mines. Often it is converted into Sulphur Dioxide or Sulphuric Acid before it goes to work. Usually its service is performed behind the scenes at some stage in the process and Sulphur does not appear in the final products—the products we buy in the stores.

FREEPORT SULPHUR COMPANY

OFFICES: 122 East 42nd Street, New York 17, N. Y.

MINES: Port Sulphur, Louisiana • Freeport, Texas

SULPHUR SERVES INDUSTRY

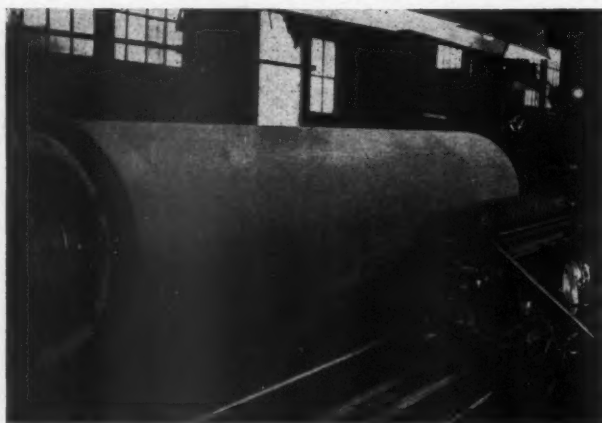
Welcome to TAPPI!

*Best Wishes for a
Most Successful
Meeting*



Pacific Coast Supply Company
PORTLAND, OREGON • SAN FRANCISCO, CALIFORNIA

BETTER PAPER from BETTER EQUIPMENT



"YES! GO WEST"

Attend the 1949 Fall Meeting of TAPPI to be
held in Portland, Oregon, September 12-15

Precision drilling of rubber-covered suction
rolls as shown here assures quality covering.
Griffith Rubber Mills serving the paper indus-
try since 1911 has built a reputation for qual-
ity work. For better equipment to produce
better paper call



2439 N.W. 22nd Ave.
BE. 7126

Portland, Oregon

RUBBER
COVERED
ROLLS

FACTS ABOUT PAPER

(Continued from page 114)

transferring ideas from individual to individual was by means of drawings, supplementing the human voice. By this development man's intellectual powers were elevated enormously. It was a stepping stone in the advance of civilization.

The invention of paper in the second century A.D., followed by printing in the eighth century paved the way for the religious reformation and made possible the education of man. If you agree that man has now reached a high state of civilization, this evolution has been claimed to be more directly due to the inventions of paper and printing than to all other factors.

What Is Paper?

Before we proceed further, let us agree on a definition of "paper." Noah Webster defines it as "a substance made in the form of thin sheets or leaves from rags, straw, bark, wood, or other fibrous material, for various uses." "The Dictionary of Paper" (published by American Pulp and Paper Assn.) classifies paper as "a matted or felled sheet of vegetable fiber formed on a screen from a water suspension." In the book on "Papermaking," by Dard Hunter, an eminent authority on the history of papermaking, the following more complete statement is made, "To be classified as true paper the thin sheets must be made from fiber that has been macerated until each individual element is a separate unit, the fibers intermixed with water, and by the use of a sieve-like screen, the fibers lifted from the water in the form of a thin stratum, the water draining through the small openings of the screen, leaving a sheet of matted fiber upon the screen's surface. This thin layer of intertwined fiber is paper." Although paper derives its name from "papyrus," used by the Egyptians over 4,000 years ago for records, this material is a laminated substance made from papyrus reed and is not true paper. Other materials employed by early peoples for records were bronze, bone, bamboo, silk, and parchment made from the skins of animals.

The most important date in the early history of paper was 105 A.D. Tradition ascribes the invention of paper on that date to Ts'ai Lun, a Chinese court official who became privy counselor to the emperor Ho Ti. His paper was made from the macerated fibers of bark, cloth, and hemp. This method of papermaking is basically the same employed by the huge machines of today capable of producing over 1500 feet of paper a minute. Thus the principle of forming paper has not greatly changed in nearly 2,000 years.

About 1,000 years elapsed before the invention of paper reached Spain and the



JOHN L. PARSONS
who presented this paper at University of Maine last year, was former Research Chief at Hammermill and heads B & W Research in Maine.

European continent. Indeed, the westward journey began following the battle of Samarkand in 751. At this time Chinese prisoners of war revealed the secret of papermaking to their captors. Although Europe was slow in accepting paper as a substitute for their parchment, the invention and development of printing with movable type by Gutenberg around 1450 resulted in the use of paper on a comparatively large scale. T. F. Carter (in "Invention of Printing in China," Columbia Univ. Press), has remarked that of all the world's inventors these two, the inventor of paper and the originator of European typography, stand out preeminent

Brief Summary of His Career

John L. Parsons, research director for H. & W. Co., Waterville, Maine, presented this paper at the University of Maine last year at a conference of the N. E. A. C. T., and it was published in the Journal of Chemical Education. In this reprinting we have added illustrations selected by the author.

Mr. Parsons, born in Rye, N. H., attended Portsmouth, N. H., high school, Phillips Exeter Academy and Massachusetts Institute of Technology. After graduating from MIT, he taught chemistry at Boston U. and MIT, then joined Hammermill Paper Co., Erie, Pa. He spent two years at Yale with the late Prof. Harold Hibbert on a fellowship while with Hammermill.

He built the research department at Erie from a "one-man" department, himself, in the early '20's to a sizeable staff in the '40's. He was chief of the research department at Hammermill when he left there to accept the post with H. & W.

This year he is chairman of the Maine-New Hampshire technical section.

among those who have advanced the cause of literature and education in the world.

Papermaking came to British Columbia in 1690 when the Rittenhouse mill was built near Germantown, Penn. (Ed. note —A crude paper was made by Mayans in Mexico over 1,000 years ago and later by Aztecs, but Mexicans claim the first paper made in America in European manner was at Culhuacan in 1575 by Spaniards). An early watermark employed by Ritten-



SEMITLE TANKS ARE VERSATILE

Semtile tanks have no limitations as to shape or size, provided a vertical type unit is used.

They can be erected in almost any location and in extremely confined space where it would not be possible to fabricate other types.

They withstand heavy bearing loads, as this results in a compression on the wall which aids in

resisting temperature and shrinking stresses.

Other Semtile features to remember—

No through joints in a Semtile tank, either horizontally or vertically.

Semtile salt-glazed tile presents a smooth flowing, easy to clean surface.

Yes! Go West! 1949 Fall Meeting TAPPI, Portland, Oregon



house was the monogram WR on one-half of the sheet of paper. On the other half there was a clover leaf surmounted by a crown. Underneath the shield was the word "Pensylvania." This watermark was adapted from the arms of France, the crown and shield with three fleur-de-lis. Watermarks in paper made their appearance in the thirteenth century and serve to identify the time and place of the manufacture of the sheets so marked. They are marks impressed on the wet sheet by means of a design in relief on a form made of metal or other suitable material. Early watermarks were emblematic of guilds and brotherhoods; they sometimes indicated the brand of paper, the location of the mill, the size of the sheet, and the quality of the paper. Now watermarks

serve as trademarks of the various paper mills.

True paper, as we know it, is composed for the most part of vegetable fibers which, chemically speaking, are chiefly cellulose and other polymerized carbohydrates. Early paper was made almost entirely from rags, and the shortage of fibrous materials became increasingly acute with the rise in demand for paper. Early in the eighteenth century the Frenchman Reaumur observed that American wasps form a very fine, white paper from wood. He added that the wasps show how paper can be made from plant fibers without the use of rags and linen. These researches stimulated Christian Schaffer in Germany, during the later part of the same century, to investigate

new papermaking fibers. His treatise in six volumes is a classic on the subject. A great variety of paper samples, including paper from wasps' nests, was included in his books. Around 1800 Matthias Koops, an Englishman, built a paper mill in which paper was made for the first time from materials other than linen and rags. In the appendix of Koops' book are found these words: "The following lines are printed upon Paper made from Wood alone, the produce of this country, without any intermixture of rags, waste paper, bark, straw, or any other vegetable substance, from which Paper might be, or has hitherto been manufactured; and of this the most ample testimony can be given, if necessary."

An incident of some interest to paper-making in Maine was the exploit of I. Augustus Stanwood who used Egyptian mummies for the purpose of making paper out of their linen shrouds. The woven wrappings together with the papyrus filling were manufactured into a coarse brown wrapping paper which was used by grocers, butchers and other storekeepers. It is claimed that the only competition encountered by Stanwood in purchasing the mummies was the Egyptian railroad which used mummies for fuel, the supply of which was considered inexhaustible. Mummy wrappings were also used for the manufacture of paper in New York state.

U. S. Had Most Mills

During the industrial revolution of the last century paper became much more abundant owing to the discovery of methods whereby the fibers in wood could be isolated and purified by chemical means. By 1874 the United States possessed more paper mills than any other country in the world. The paper age began, and songs were written about "the paper world." Paper was converted into articles for almost every conceivable purpose: clothes, coffins, car wheels, domes for buildings, table tops, buttons, hats, carpets, etc. In Boston alone, 75 million paper collars were manufactured in one year. With these technical developments of the nineteenth century we associate such names as Fourdrinier in the case of the paper machine, Tilghman, Ekman, and Fry for the invention and development of the sulfite pulping process, Keller for the groundwood process, and Dahl for the method of sulfate pulping.

Groundwood or mechanical wood pulp is the chief component of newsprint, inexpensive magazines, etc. It is common knowledge that such papers become yellow and brittle with age. More permanent papers consist for the most part of chemical pulps, free of lignin and other degrading substances, carefully processed to paper. By means of the sulfite, soda, or sulfate process the fibers in wood are



Team up with the *DRAPER FELT* to obtain the best results for your requirements.

The
DRAPER
Felt

DRAPER BROTHERS COMPANY

Woolen Manufacturers Since 1856

CANTON, MASSACHUSETTS

RALPH E. BRIGGS, Sales Manager

● BRADFORD WEST, Pittsfield, Mass. ● WILLIAM N. CONNOR, Jr., Canton, Mass. ● L. H. BREYFOGLE, Kalamazoo, Mich. ●
● WALTER A. SALMONSON, 2514 Northeast 59th Ave., Portland, Oregon ● L. L. GRIFFITHS, Jr., Kalamazoo, Mich. ●
● HAROLD H. FISH, Syracuse, N. Y. ●

TAPPI MEMBERS

DURING YOUR VISITS TO

WEST COAST MILLS

Please especially note the large number of

MERRICK **WEIGHTOMETERS AND FEEDOWEIGHTS**

Used for ACCURATE Process Control

MERRICK SCALE MFG. CO. • Passaic, New Jersey

IRVING R. GARD & CO., LOWMAN BLDG., SEATTLE 4, U. S. A.

**THE NEW
Camachine 18**

at KALAMAZOO

Kalamazoo Paper Co. speeds production of top-quality rolls of book and coated papers with a new Camachine 18 Winder. This winder was one of the first to be delivered with the new Camachine pneumatic cutter units; push-button controlled motor-driven riding roll lift; and other recent Camachine improvements. For up-to-the-minute information on fast, new Camachinewinders, write to:

CAMERON MACHINE COMPANY
61 Poplar Street, Brooklyn 2, N. Y.

**NEW...
FASTER...
BETTER**

AMERON MACHINE CO. BUILDERS CAMACHINE-18

PACIFIC COAST SUPPLY CO • PUBLIC SERVICE BUILDING, PORTLAND 4, ORE. • 342 SANSOME ST., SAN FRANCISCO 19, CALIF.

AA-211

September, 1949

125

isolated and partially purified. The purification is then continued in the bleaching process, yielding a product high in resistant (alpha) cellulose and free from undesirable constituents. It is possible to carry this purification to a degree approximating cotton cellulose.

Although the essential nature of paper has remained the same for 18 centuries the techniques of paper making have been undergoing a revolution. With the advent of power-driven machinery, stainless steels, and other alloys, as well as an ample supply of raw material, modern technology has made possible the rapid production of paper in continuous webs. Paper has been made more abun-

dant not only for cultural usage but especially for utility purposes. Wood and the application of modern science has made this possible. A giant industry has grown during the past 100 years, increasing from 6800 employees in 1848 to nearly 170,000 at the present time.

In the 60-year period between 1879 and 1939 the population of the United States increased 2.7 times but the consumption of paper multiplied 35 times. The most spectacular gain has been in paper and paperboard for noncultural or utility use. More than 80% of the paper made in this country at the present time is for utility use—a fact not generally appreciated. The use of paper bags and paper board car-

tons, supplanting wood, has greatly aided in the convenience and wideness of distribution of manufactured and agricultural products. Paper has also replaced wood, glass, and metal in other fields. Chemical wood pulp fibers are raw material for the rayon, film, explosive, lacquer, and plastic industries. These industries, however, account for only a few per cent of the total wood pulp consumed in the United States.

The Uses of Paper

No fabricated product is used more extensively than paper. In 1947 it has been estimated that the per capita consumption of paper and paperboard in this country was 350 pounds. For comparison, the per capita consumption of other cellulosic materials has been reported as 34.5 pounds for cotton and 6.2 pounds for rayon. The consumption of paper and paperboard in 1946 was over 22 millions of tons in this country.

Paper seems to be closely tied to the social and industrial progress of nations. Prewar figures indicate that, not including the United States, there were only nine countries in the world in which the per capita consumption of paper exceeded 100 pounds. It is difficult to realize that for thousands of years true paper did not exist. Yet how long would our present civilization endure with the total lack of paper? The significance of this statement is no doubt appreciated by the inhabitants of the devastated countries in Europe.

Nearly all paper is now made of fibers isolated, either mechanically or chemically, from wood, although the annual pulpwood consumption is only about 10% of the saw timber drain in the United States. Most materials made from wood are within the reach of a great majority of American families, and paper is no exception. The papers of the cultural group seem to be approaching their peak in rate of consumption; the rate of use of utility papers is increasing, however. During the recent war some 2800 items made of paper were used by the War and Navy departments. Paper is an indispensable ally to the soldier. It has been reported that 100 tons of paper are needed for plans and other uses in the construction of a battleship of the "Massachusetts" class.

Paper is widely applicable as a functional, mechanical, or service item. It is a revelation to many people that papers have been developed to hold petroleum products and even 100-octane gasoline; that paper products can be made stronger than metals; that paper can be shaped or formed into almost any structure or design; that paper can be made impervious to gases; that paper can be manufactured so that it will have high wet strength; that paper finds many applications in the building, mechanical, automotive, and electrical fields; that paper can be fabricated to resist fire, mildew, and treated



20" and 12" Diameter Monel Piping

B-H MONEL PIPING — HIGH UP

IT'S
WHEN
EVEN
IS LOW COST

• Light Weight • Low Cost • Corrosion-Resistant

**SALUTE! to TAPPI
FALL MEETING IN PORTLAND, ORE.**



Brown-Hutchinson extends its best for the successful meeting it is bound to be. Brown-Hutchinson looks forward to going West and being with you.

MARTIN HUTCHINSON

RAY J. SHILLUM



BROWN-HUTCHINSON IRON WORKS Tel.: TRinity 4-0080
1831 Clay St.
DETROIT 11, MICH.

SOUTHERN REPRESENTATIVE
SOUTHERN CORPORATION, P.O. BOX 810, CHARLESTON, SOUTH CAROLINA

The Carthage 360 Barking Drum



Here is an all welded drum built like a one piece tube instead of having parts to be knocked loose one by one. Here is a shell built of six $1\frac{1}{8}$ " rolled steel plates weighing 12,000 pounds each and running full length — a shell weighing about three times as much as the wood it contains.

There are only eight bearings in the chassis.

BETTER APPROACH TO BARKING

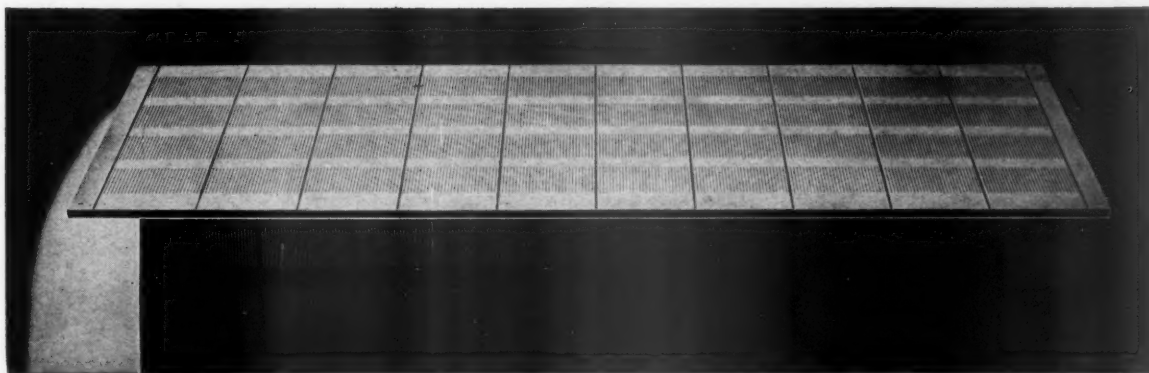
- ✓ Without Maintenance
- ✓ Without Brooming

CARTHAGE MACHINE COMPANY

ENGINEERS and BUILDERS

CARTHAGE, NEW YORK

Pacific Coast Representative: RAY SMYTHE, 501 PARK BUILDING, PORTLAND 5, ORE.



The "Hardy" Chrome-Nickel-Steel SCREEN PLATE

OVER 20,000 IN SERVICE

No slot wear in fourteen years! The important sharp top edge and burnished cut remains unaffected by erosion and corrosion. AND DO THEY SCREEN!

MAGNUS METAL CORPORATION

FITCHBURG, MASS.

YES! GO WEST! 1949 Fall Meeting TAPPI — Portland, Ore.

for many other purposes; that paper is an exceedingly versatile material and is continually finding new uses.

In the packaging field the multi-wall paper bag has been developed to the point that it is resistant to climatic changes, exposure to insects, rain, salt water, ice, heat, and humidity. This type of bag is designed to deliver foodstuffs, chemicals, and other items of commerce to any spot on earth. Perhaps no use of paper has done so much to raise our standards of clean, safe, low-cost living as its constantly increasing use in the protection of our foods. Paper tells the contents of cans and bottles, and these come to our homes in paper cartons.

During the war several papers were created for specific purposes. Among such

papers were ration papers, some of which contained fluorescent cellulose fibers, which were visible only in ultraviolet light; in other ration papers were incorporated a small percentage of ferric chloride-treated fibers, which remained colorless until treated with a ferrocyanide and an acid. Another paper was designed for letter use by prisoners of war. It was made color sensitive to all invisible inks of either the acid or alkaline type. Later we developed a paper which was sensitive to "dry" inks employed by German intelligence. Following the passage of the Soldier Ballot Bill it became necessary to develop a form which would be readily identified. Furthermore the ballot had to resist the action of sea water, heat and high humidity. A fluorescent design,

printed on both sides of the ballot, comprised the safety feature. V-Mail service required a paper suitable for photographic reduction on miniature film. This paper was made with the specified brightness and opacity to produce good contrast and not permit undesirable "show through." Proper sizing was necessary in order that characters written with ink would be clear and not blurred. A further paper was coated with fluorescent materials on which maps were printed. Such maps became visible in fluorescent light.

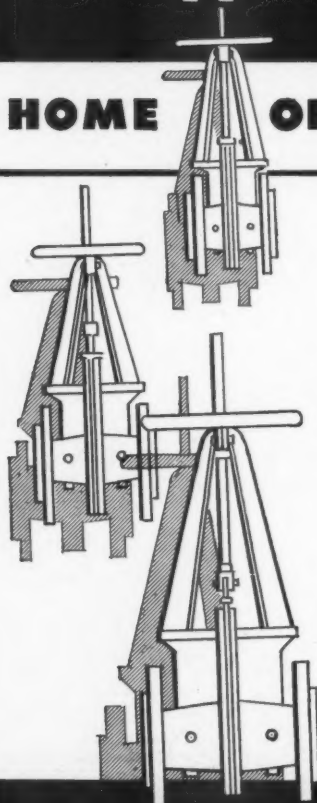
Mention has been made of the versatile character of paper and of its many uses, but what about the physical units which comprise paper. Let us look into the components of a sheet $8\frac{1}{2}$ x 11 inches in size, 0.046 inch in thickness, and weighing 24 pounds to a ream of 500 sheets, 17 x 22 inches in size. Such a sheet is typical of a bond letter paper used in thousands of homes and businesses throughout this country. There are about 39 million softwood pulp fibers in a single sheet, with a weighted average length of 2.32 mm. and an average width of 0.031 mm. (J. H. Graff in Tech. Assn. Papers, 1944). If these fibers were placed end to end they would extend the almost incredible distance of 26 miles. Thus the fibers placed end to end in a 24-pound ream of 500 sheets of business size letterheads would cover the distance of 13,000 miles. The solid content of this sheet of bond paper comprises about 93% fibers, and the remaining 7% is divided among the rosin and starch contents for sizing purposes and a small amount of inorganic filler. Its volumetric composition is about 65% solids and 35% air. Thus our sheet of paper is composed gravimetrically of about 93% of chemical pulp fibers, and volumetrically of about 65% of pulp fibers, the relations varying with the type of paper.

Mention should be briefly made here of the role the University of Maine has played in the education of technologists for the pulp and paper industry. This University was the pioneer on this continent in giving courses of instruction in this field, beginning back in 1913. Many of its graduates are now occupying important positions in Canada and the United States. It would be indeed difficult to measure the contribution this educational institution has made to the development of the paper industry in America.

Thus, paper made from millions and billions of tiny fibers from the forest is the springboard to modern civilization, "the Pacemakers of Progress" (as described in book and movie of that title by F. C. Huyck & Sons, Albany, N. Y.). Man uses it more than any other one commodity except fresh water. From start to finish, paper is an integral part of our lives. All our records, all our re-

We Welcome Members of *Tappi* to Portland

HOME OF FABRI-VALVE



Fabri-Valves are
fabricated from stainless
steel, mild steel, or any
combination, to your
specifications. 10-day
delivery on most sizes.

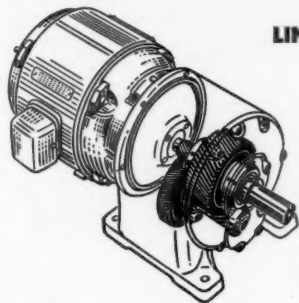
FABRI-VALVE CO. OF AMERICA

c/o Northwest Copper Works, Inc.

2321 No. Randolph Street • Portland 12, Oregon

SPEED REDUCTION YOUR PROBLEM? Consult **LINK-BELT!**

Power at the required speed is available through the use of a Link-Belt Speed Reducer from a line of standardized units. Regardless of your specific needs for ratio, power or speed, Link-Belt has the correct answer and Link-Belt engineers will be pleased to assist you with your power transmission problems.

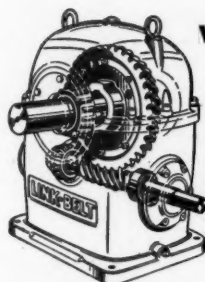
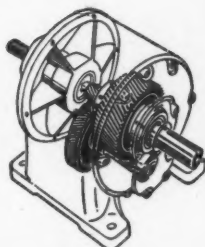


LINK-BELT GEARMOTORS

Packaged Power units that are compact, economical and highly efficient are available with ratings from 1 to 30 horsepower and standard output speeds from 280 to 6 R.P.M. These easily installed streamlined Gearmotors are completely explained in Book No. 1815, a copy of which is yours for the asking.

HELICAL GEAR SPEED REDUCERS

In-line double reduction helical gear units are available in 8 sizes with ratios the same as furnished in Link-Belt Gearmotors. For use where a coupled rather than an integral drive is preferred.

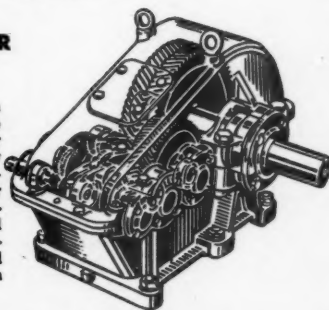


WORM GEAR SPEED REDUCERS

For high reductions and right-angle drive arrangements, these time-proven rugged units are an ideal answer. Take your choice from a complete line of single, double or helical-worm reducers having horizontal or vertical output shafts and satisfy exactly your requirements. We would be pleased to send Book No. 1824 which describes in detail Link-Belt Worm Gear Reducers.

HERRINGBONE GEAR SPEED REDUCERS

Link-Belt's large selection of single, double and triple reduction Herringbone Gear Speed Reducers adequately fill the bill for small, moderate or large horsepower speed reduction requirements. A mighty good answer to your speed reduction problem—Can we send Book No. 1819 so you can see for yourself?



LINK-BELT COMPANY PACIFIC DIVISION

Plants and Factory Branch Stores at San Francisco 24, Los Angeles 33, Seattle 4.
Offices and Factory Branch Stores: Portland 9, Spokane 13, Oakland 7.



Power Transmission Machinery

September, 1949

Bumper Crop—for you as well as the farmer

Corn plays two big roles in the paper industry.

From corn come materials that help you make better paper more efficiently and economically—such materials as GLOBE* Starch for the beaters and for enzyme conversion; AMIJEL* for the beaters; CORAGUM* for corrugating; and LAM-O-DEX* for laminating.

And then corn is a major source of that 25-billion-dollar farm income that buys huge tonnages of every paper product.

Better paper . . . better sales—corn helps you two ways.

Consult our Technical Sales Department—without obligation—for information on the profitable use of these products.

CORN PRODUCTS SALES COMPANY

17 Battery Place • New York 4, N. Y.

*GLOBE, AMIJEL, CORAGUM and LAM-O-DEX are registered trade-marks of Corn Products Refining Company, New York, N. Y.



corded histories, all our recorded religions, all our evidence and proof of ownership of property and possession, proof of birth, citizenship, and death, our bonds and mortgages, our money, etc., are found on paper. Inexpensive paper has made America one of the most literate countries in the world. It has fed the masses their dreams of social justice and helped to make us the freest peoples of the earth. Inexpensive paper has carried culture to the common man, raised his living standards, given him jobs, and kept him healthy. Within this century paper has released such a flood of business and in-

dustrial growth as the world had never known. Enough paper is produced annually to make a mile-wide strip that would reach to the moon.

"Out of paper came our mass-production economy, our speed of transportation and distribution. Without abundant paper, civilization as we know it today could never have been developed" (from the Huyck book). "The world spins on paper. With it, peace can come for all time if it is well used—for through it, by the printed work, people of all nations can know each other; and by knowing, reach out friendly hands."



from
birch and aspen
now come
semi-chemical
pulp

ABUNDANT and fast growing, these hardwoods are capable of vast increases over standard yields after sodium sulphite treatment followed by SPROUT-WALDRON refining.

Readily bleached and with high initial strengths, such pulps may be substituted for bisulphite in book and comparable grades.

Low power and high increments of clean, uncut fibers, offer inducement to serious consideration.

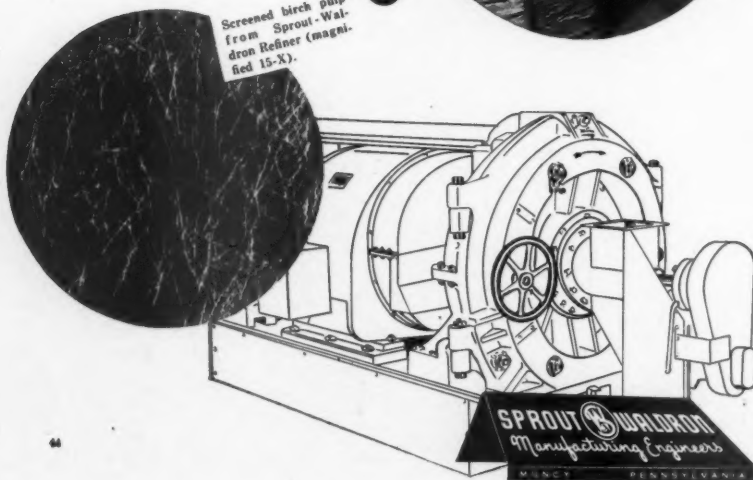
SPROUT-WALDRON offers you its technical knowledge and experience in consultation.

SPROUT-WALDRON & CO.
32 Waldron St., Muncy, Pa.

1
Partially cooked
birch chips from digester—(actual size).



2
Screened birch pulp
from Sprout-Waldron Refiner (magnified 15-X).



Personals

PACIFIC COAST

H. B. Reilly Becomes Springfield Technical Director

H. B. Reilly has been appointed technical director of the new kraft pulp and containerboard mill of Weyerhaeuser Timber Co. at Springfield, Ore., according to Marvin C. Jones, mill manager.

Mr. Reilly received his chem engineering degree at Stanford and started as a chemist at Crown Zellerbach's Camas mill. In 1928 at the Union Bag mill (now St. Regis) in Tacoma, Wash., he became chief chemist and when it suspended in 1931, he joined Oregon Pulp & Paper at Salem. He returned to Tacoma in 1936 when St. Regis took over there and resumed operations. From 1938 to 1937 he was research chemist at Champion's Pasadena, Tex., mill, then went to the new kraft mill of Brown Co. at Berlin, N. H., as technical supervisor.

He was born in Portland, Ore. He and Mrs. Reilly have two daughters, Kathleen, 15 and Jane, 13.

SAMUEL J. ROBINSON became general manager of Publishers' Paper Co., Oregon City, Ore., effective in July. Formerly he was mill manager of Sterling Pulp & Paper Co., Eau Claire, Wis. Mr. Robinson is a graduate of Institute of Paper Chemistry where he received a Phd. degree. Mr. and Mrs. Robinson and son Roger reside at Oswego Lake Shore apartments in Oswego.

OLIVER P. MORGAN is now chief chemist at the new pulp division operations of Weyerhaeuser Timber Co. at Springfield, Ore. He formerly was project chemist at company's Longview, Wash., operations. **GEORGE A. HANSEN**, also from the Longview plant, is shift chemist at Springfield.

DENIS R. AXON has been promoted to be kraft shift foreman at Longview, Wash., operations of Weyerhaeuser Timber Co. Pulp Division, filling vacancy left when **HUGO TRYGG** transferred to the organization's new plant at Springfield, Ore., as pulp mill superintendent.

GEORGE MOORHEAD has been promoted to position of sulfite superintendent at Oregon Pulp & Paper Co., Salem, Ore., the former position of the late E. A. Weber. Mr. Moorhead has been with the company 14 years, having been chemist prior to promotion to night superintendent, in which capacity he was employed for several years previous to his recent promotion.

PULP & PAPER

YOU'LL WANT THIS INFORMATION **BEFORE** YOU BUY

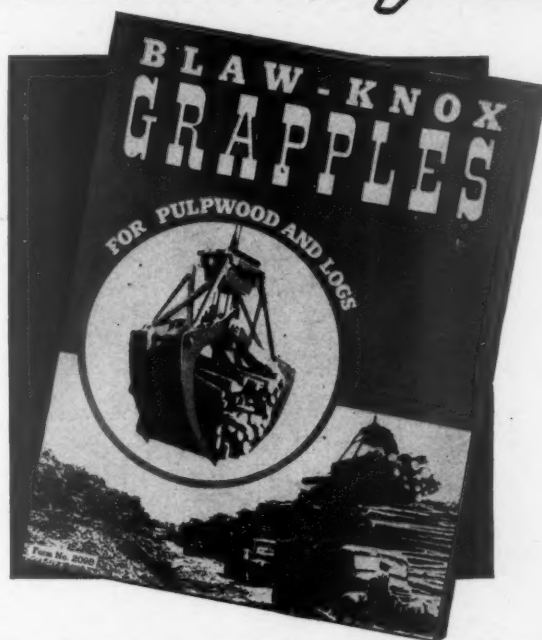


For fast unloading and handling of pulpwood, for symmetrical stacking or rehandling from corded piles—you'll find the size and type you need in this new Bulletin on—

BLAW-KNOX GRAPPLES

It is complete with photos, diagrams, specifications and performance data of interest to anyone concerned with pulpwood handling. Before you decide on your next purchase write for Bulletin No. 2098.

**BLAW-KNOX DIVISION
OF BLAW-KNOX COMPANY**
2059 Farmers Bank Building, Pittsburgh 22, Pa.



BLOEDEL, STEWART & WELCH LIMITED VANCOUVER, B.C.



**LOGS
PACIFIC COAST LUMBER
UNBLEACHED KRAFT PULP
RED BAND CEDAR SHINGLES
PRES-TO-LOGS**

Large Stands of Virgin Timber

"HERE TODAY AND HERE TOMORROW"

Sales Offices:

PORT ALBERNI and VANCOUVER, CANADA

Pulp Sales Agents:

UNITED STATES: THE MEAD SALES COMPANY, INC., 230 Park Avenue, NEW YORK, N.Y.
UNITED KINGDOM: PRICE & PIERCE LIMITED, 1058 Sun Life Building, MONTREAL, P.Q.

FLORIDA OAK

(Continued from page 65)

the task of finding an outlet for the chips. First tests disclosed that if the scrub oak pulp were merged with 25% to 28% plastic a material could be produced that might be used as sides for packing boxes. The first cost on this was high and the further work was undertaken. Work is also being done to develop an alkaline process to yield a quality short fiber paper.

Dr. Nolan graduated from Rensselaer Polytechnic in 1929. After two years with Champion Paper & Fibre Co., he obtained

his Ph.D. in chemical engineering at the University of Michigan. He was with A. E. Staley Mfg. Co., then taught at the University of Maine, during the war he served in the navy, was with Oliver United Filter Co. for seven months, and went to Florida in 1946.

The laboratory installations include such items as Noble & Wood beater, Sprout-Waldron & Co. refiner, Valley flat screens, and Gould stock pump. Other equipment bears the identification of standard accepted design, such as the Sutton, Steele & Steele (Dallas, Tex.) on chip and bark separator.

Wallboard Specialists On Cambridge Program

What is believed to be the first national wallboard conference — and certainly the first international gathering on the subject—takes place Sept. 16 at Cambridge, Mass., under auspices of the Northeastern Wood Utilization Council in cooperation with Harvard University.

As is traditional with the NEWUC, attendance will be limited to approximately 75 so that a round-table discussion may be followed. Those wishing to attend should write or wire directly to Mr. Edgar L. Heermance, executive secretary of the council, P.O. Box 1577, New Haven 6, Conn.

According to officials of the council, interviewed by **PULP & PAPER**, wallboard specialists from Sweden, Switzerland, Italy and the U. S. will deliver papers on both the dry and wet processes of manufacturing wallboard from wood and wood waste. The production of hardboards will be stressed, it is said.

The meeting will be held in Baker Library, Graduate School of Business Administration, Harvard University. The Business School is at Soldiers Field, Boston, about a quarter of a mile from Harvard Square, Cambridge, on the south bank of the Charles River.

Coast Safety Men in School

Participating in the Centennial Graduate Seminar held at Pacific University, Forest Grove, Ore., recently, sponsored by the university and the American Society of Safety Engineers, were Chas. S. Hood, personnel and safety supervisor, Publishers Paper Co., Oregon City; George La Husen, assistant personnel and safety supervisor, Crown Zellerbach Corp., West Linn, Ore.; S. W. Grimes, assistant secretary, Pacific Coast Association of Pulp and Paper Manufacturers, Portland; Chris T. Nylund, safety director, St. Helens Pulp and Paper Co., St. Helens, Ore.; and Richard L. Mullen, safety director, Longview Fibre Co., Longview, Wash. O. R. Hartwig, general safety supervisor, Crown Zellerbach, addressed the seminar and R. M. Gilmore, Rayonier Incorporated, Hoquiam, Wash., led a problem forum.

Our NEW PLANT



**BETTER EQUIPPED
THAN EVER
to Serve You**

FABRICATORS OF
**STEEL ▾ COPPER
STAINLESS STEEL ▾ BRASS
SILICON BRONZE ▾ MONEL**

★ **A WESTERN INDUSTRY EXTENDS
GREETINGS TO A WESTERN FALL
MEETING OF TAPPI!**

Established 1900

**Puget Sound
SHEET METAL WORKS
SEATTLE - WASH.**



WILLIAM S. HODGSON, formerly of Fibreboard Products, Inc., Port Angeles, Wash., now resides at 1219 Carlisle Ave., Victoria, B. C., having left Port Angeles in November, 1947. He is with Wm. Thacker & Sons, sanitary and heating engineers.

(Advertisement)

**THOUSANDS of Industrial
Buildings...**



**CORROSION-PROOF!
MAINTENANCE-FREE!**

Your buildings need all the protection they can get and PLASTEEL has what it takes. Triple-protected on both sides of the sheet, this steel corrugated roofing resists the extremes of exposure. It defies corrosion.

PROTECT with
Plasteel
ROOFING and SIDING

PLASTEEL needs no paint, no repairs. It's permanent. Let us tell you how it can solve your maintenance problems.

Write Today
No Obligation

MERCER

Steel Company, Inc.
2555 N. W. Nicolai Street
PORTLAND 10, OREGON



**HERMANN
CLAFLIN REFINER**

**CONTINUOUS
BEATER and REFINER**

NOW: Fifteen large No. 3 units in operation on Kraft Pulp making Cement Sack, Envelope, Gumming, Asphaltting and Waxing. Production up to six tons and more per day, with 200 H.P. to 350 H.P.

Mfgs. Also: TAPPI; Standard Pulp Testing and Sheet Making Apparatus.

THE HERMANN MFG. CO.
LANCASTER, OHIO



**"WE'RE PLAYING THE
Blue Chips!"**

"Keep your eyes on that felt book, Boss. You'll see how production goes up and costs go down when Hamilton Felts go on.

"We are hanging up new records with Machine Number Four since we equipped the presses with Hamilton Felts. They sure do squeeze out the water. The drier rolls are spinning at top speed—not hot enough to make the sheets brittle. Just tough and with a swell finish.

"Yes sir, from the thinnest tissue to the heaviest board there is a Hamilton Felt that makes every press do its work better, faster and at lower cost."

SHULER & BENNINGHOFEN

HAMILTON, OHIO

Miami Woolen Mills, Established 1858

**Hamilton
Felts**



Ebasco Teamwork!

EBASCO EXPERTS ARE ON THE JOB

Under normal conditions, building a newsprint mill from inception to operation (in a limited time) is a complex undertaking. Imagine then, the problems you would encounter in building the first newsprint mill in India!

For instance: the hot climate—necessary water supply for the mill—transportation—supply and storage of bamboo and salai—selection of equipment and machines. All are problems that demand careful analysis and solution by a team of experts, working together.

That's why the National Newsprint & Paper Mills, Ltd. turned the job over to EBASCO.

In EBASCO you have a single organization equipped with the specialists and experience to do the whole job—including design and construction, purchasing, inspection and expediting of materials and equipment, putting the mill into operation.

WHAT'S YOUR MILL PROBLEM?

Expansion? Modernization? Building an entirely new plant? Call on EBASCO. You'll find its team of seasoned consultants, engineers and constructors will get your job done quickly and efficiently.

If you'd like a complete outline of EBASCO's individualized services as engineers, constructors, and business consultants, write for our booklet **THE INSIDE STORY OF OUTSIDE HELP**. We'll send it to you promptly.



EBASCO SERVICES

INCORPORATED

Two Bector Street
New York 6, N. Y.



Appraisal • Budget • Business Studies • Consulting Engineering
Design & Construction • Financial • Industrial Relations
Inspection & Expediting • Insurance & Pensions
Purchasing • Rates & Pricing • Research • Sales & Marketing
Systems & Methods • Taxes • Traffic

"Invisible Knot" Created For Kraft Cord Yarns

E. W. Twitchell, Inc., makers of paper products for industry at Philadelphia and Maple Shade, N. J., plants, has opened the eyes of the country's rug-makers—with an "invisible knot."

Fashioned with amazing simplicity—by squeezing with a nut-cracker device—the knot promises to save rug-makers thousands of man-hours hitherto wasted in shut-down time.

Knots in the warp yarns, fed into the rug looms from tubes, frequently foul in the heddle—where rug pile and warp yarns are combined.

The Twitchell "Nutteracker" device is used to press knots out of its kraftcord yarns. In one jaw is a groove. In the other is a matching wedge. The knot is placed in the groove, the wedge is shut down on it, and—no knot!

Twitchell has also sent many of the tools to rug manufacturers where valuable shut-down time is being saved by their use.

AZITE LIQUEFIER 900 is American Cyanamid Co.'s trade name for dicyandiamide. This chemical has two properties of interest to manufacturers and converters of paper—first, its capacity for reducing viscosity of certain colloidal solutions such as starch and proteins, and second, its preserving effect on strength of papers exposed to acid conditions. A 17-page technical bulletin, "AZITE Liquefier 900" is available, free, from American Cyanamid Co., Paper Chemicals Dept., 30 Rockefeller Plaza, New York 20, N. Y.

LINK BELT CO., Chicago, announces development of a new self-contained vibrator unit, the Link-Belt car shaker, for unloading materials from open top, hopper-bottom gondola cars to conventional track hoppers serving bulk materials conveying equipment. Further information can be obtained from the company offices.

For Sale:

Will Sacrifice:

1—9" x 12" American Ball Horizontal Twin Slow Speed Automatic Steam Engine with two 3" Pickering Governors, Speed Regulating Changer. Automatic Lubrication. 150 Horse Power.

1—96" Murray Chipper, roller bearing, complete with 150 HP, 200 RPM, direct connected synchronous motor, automatic full voltage, starting panel and MG set. Three sets knives.

All above equipment may be observed in operation and is in good operating condition.

Reply Box P&P-49, Pulp & Paper, 71 Columbia Street, Seattle 4, Wash.

Withstandley Heads Promotion For Cameron Machine Co.

Paul B. Withstandley has been named advertising manager for the Cameron Machine Co., Brooklyn, N. Y., manufacturers of slitting and rewinding machines for paper and textile industries. Prior to joining Cameron, he did public relations and promotion for Bristol-Myers Co. He succeeds Harold Overacker, who will handle export sales for Cameron.

Bauer Catalog For Process Equipment

Catalog No. 50 of The Bauer Bros. Co., 1706 Sheridan Ave., Springfield, O., has just been published and will be sent free on request. It illustrates and describes the complete line of Bauer process equipment which comprises pulp refiners and paper stock classifiers; attrition and hammer mills, crushers, four types of magnetic separators, etc. A section is devoted to the Fiber Products Laboratory.

A-C Pump Booklet

Allis-Chalmers is now releasing its revised handbook on the care of centrifugal pumps. This 16-page bulletin gives how and why of pump construction and their effect on pump maintenance.

Other subjects covered include facts about cavitation; water's role as a lubricant in pumps, and common mistakes in packing stuffing boxes. Copies of "Handbook for Care of Centrifugal Pumps," 08x 6256A, are available upon request from Allis-Chalmers Mfg. Co., 995 S. 70th St., Milwaukee, Wis.

Dorr Issues Booklet

The Dorr Co., 570 Lexington Ave., New York 22, N. Y., has available on request a new eight-page, two-color leaflet entitled, "Dorr Equipment and Methods for Modern Water Pre-Treatment." It contains brief descriptions and photographs of all Dorr equipment available for water pre-treatment in industrial fields. Also included are flow diagrams and a convenient table of basic design data for plant unit treating various types of water.

MINNEAPOLIS - HONEYWELL Regulator Co., Philadelphia, has issued a new Bulletin No. 48-1 on liquid level controllers.

Both direct-connected and air-actuated controllers are illustrated and described in this catalog.

For further information address Minneapolis-Honeywell Regulator Co., Belfield Valve Div., Philadelphia 44, Pa.

PULP & PAPER

